

HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

SERVICE MANUAL

BA-6 CHASSIS

<u>MODEL NAME</u>	<u>REMOTE COMMANDER</u>	<u>DESTINATION</u>	<u>CHASSIS NO.</u>
KD-32FS130	RM-YD001	US	SCC-S61V-A
KD-36FS130	RM-YD001	US	SCC-S61W-A

ORIGINAL MANUAL ISSUE DATE: 6/2005

REVISION DATE

SUBJECT

6/2005

No revisions or updates are applicable at this time.

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KD-32FS130



RM-YD001

TRINITRON® COLOR TELEVISION

SONY®

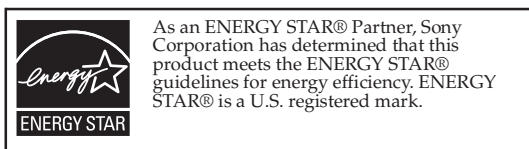
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SPECIFICATIONS

	KD-32FS130	KD-36FS130
Power Requirements	120V, 60Hz	120V, 60Hz
Number of Inputs/Outputs		
Video ¹⁾	3	3
S Video ²⁾	1	1
Y, P_B, P_R ³⁾	2	2
Audio ⁴⁾	5	5
Audio Out	1	1
RF ⁵⁾	1	1
Speaker Output (W)	10W x 2	10W x 2
Power Consumption (W)		
In Use (Max)	185W	185W
In Standby (Max) ⁵⁾	<1W	<1W
Dimensions (W x H x D)		
mm	898 x 696 x 576 mm	985 x 776 x 633 mm
in	35 ^{3/8} x 27 ^{3/8} x 22 ^{5/8} in	38 ^{3/4} x 30 ^{1/2} x 24 ^{7/8} in
Mass		
kg	74 kg	103.2 kg
lbs	163.2 lbs	227.5 lbs

- 1) 1 Vp-p 75 ohms unbalanced, sync negative
- 2) Y: 1 Vp-p 75 ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms
- 3) Y: 1.0 Vp-p, 75 ohms, sync negative; PB: 0.7 Vp-p, 75 ohms;
PR Vp-p, 75 ohms.
- 4) 500 mVrms (100% modulation), Impedance: 47 kilohms
- 5) This specification is the maximum wattage.



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Design and specifications are subject to change without notice.

Television system

American TV standard, NTSC
ATSC Compliant 8VSB, ATSC (8VSB terrestrial)
ANSI/SCTE 07 2000; QAM on cable
(Does not include CableCARD functionality)

Channel coverage

Analog: VHF: 2-69/CATV: 1-125
Digital: VHF: 2-69/CATV: 1-135

Antenna

75-ohm external antenna terminal for VHF/UHF

Picture tube

FD Trinitron[®] tube

Visible screen size

32-inch picture measured diagonally (KD-32FS130 Only)
36-inch picture measured diagonally (KD-36FS130 Only)

Actual screen size

34-inch measured diagonally (KD-32FS130 Only)
38-inch measured diagonally (KD-36FS130 Only)

Supplied Accessories

Remote Commander RM-YD001
Two Size AA (R6) Batteries

Optional Accessories

TV Stand
SU-32FS2 for KD-32FS130
SU-36FS2 for KD-36FS130

WARNINGS AND CAUTIONS


CAUTION

Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the AC power line.

SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and  mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

Leakage Test

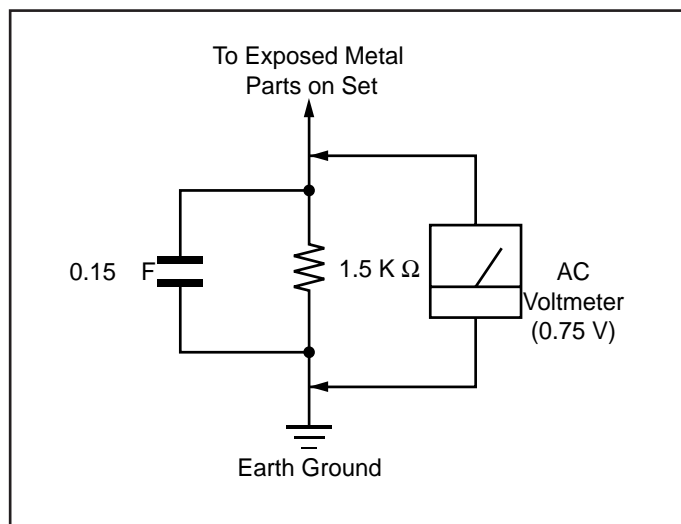


Figure A. Using an AC voltmeter to check AC leakage.

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliampmeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

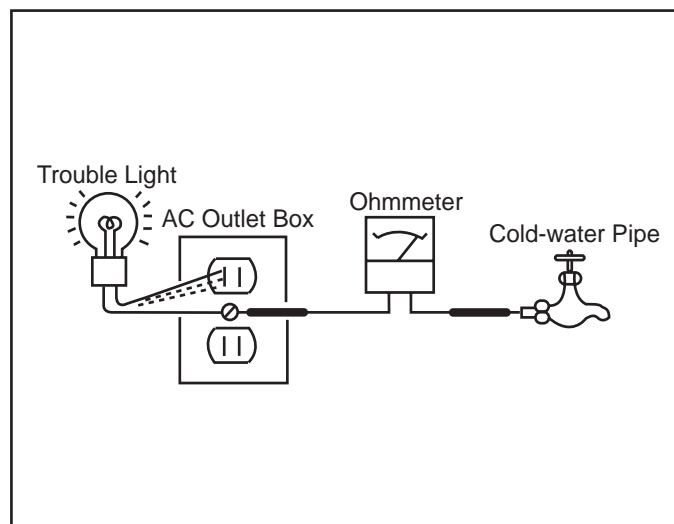


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION



The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

Diagnostic Test Indicators

When an error occurs, the STANDBY/TIMER LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

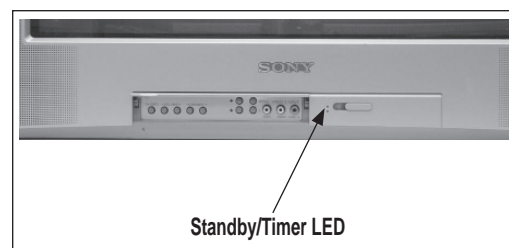
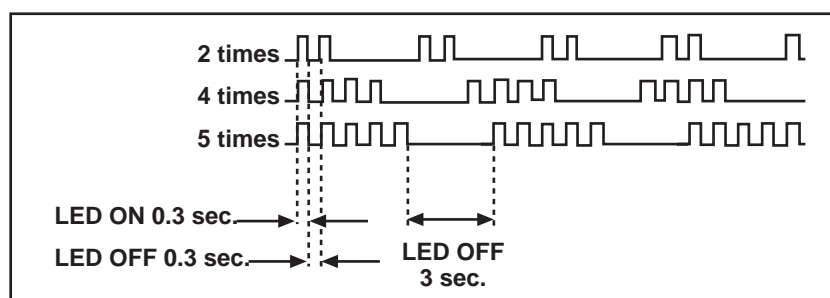
Results for all of the following diagnostic items are displayed on screen. No error has occurred if the screen displays a "0".

Diagnostic Item Description	No. of times STANDBY/ TIMER lamp flashes	Self-Diagnostic Display/ Diagnostic Result	Probable Cause Location	Detected Symptoms
Power does not turn on	Does not light	—————	<ul style="list-style-type: none"> Power cord is not plugged in. Fuse is burned out (F601). (A Board) 	<ul style="list-style-type: none"> Power does not come on. No power is supplied to the TV. AC Power supply is faulty.
+B overcurrent (OCP)*	2 times	2:0 or 2:1	<ul style="list-style-type: none"> H.OUT (Q502) is shorted. (A Board) IC702 is shorted. (C Board) 	<ul style="list-style-type: none"> Power does not come on. Load on power line is shorted.
I-Prot	4 times	4:0 or 4:1	<ul style="list-style-type: none"> +13V is not supplied. (A Board) IC561 is faulty. (A Board) 	<ul style="list-style-type: none"> Has entered standby state after horizontal raster. Vertical deflection pulse is stopped. Power line is shorted or power supply is stopped.
IK (AKB)	5 times	5:0 or 5:1	<ul style="list-style-type: none"> IC001 is faulty. (MD Board) Screen (G2) is improperly adjusted.** 	<ul style="list-style-type: none"> No raster is generated. CRT Cathode current detection reference pulse output is small.

*If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously. The symptom that is diagnosed first by the microcontroller is displayed on the screen.

**Refer to Screen (G2) Adjustments in Section 2-4. of this manual.

Display of Standby/Timer LED Flash Count



Diagnostic Item	Flash Count*
+B Overcurrent	2 times
I-Prot	4 times
IK (AKB)	5 times

*One flash count is not used for self-diagnostic.

Stopping the Standby/Timer LED Flash

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER LAMP from flashing.

Self-Diagnostic Screen Display

For errors with symptoms such as "power sometimes shuts off" or "screen sometimes goes out" that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

To Bring Up Screen Test

In standby mode, press buttons on the Remote Commander sequentially, in rapid succession, as shown below:



↑ Note that this differs from entering the Service Mode (Sound Volume +).

Self-Diagnostic Screen Display

SELF DIAGNOSTIC	
2: +B OCP	0
3: +B OVP	N/A
4: VSTOP	0
5: AKB	1
101: WDT	N/A

Numeral "0" means that no fault was detected.

Numeral "1" means a fault was detected one time only.

Handling of Self-Diagnostic Screen Display

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to "0".

Unless the result display is cleared to "0", the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

Clearing the Result Display

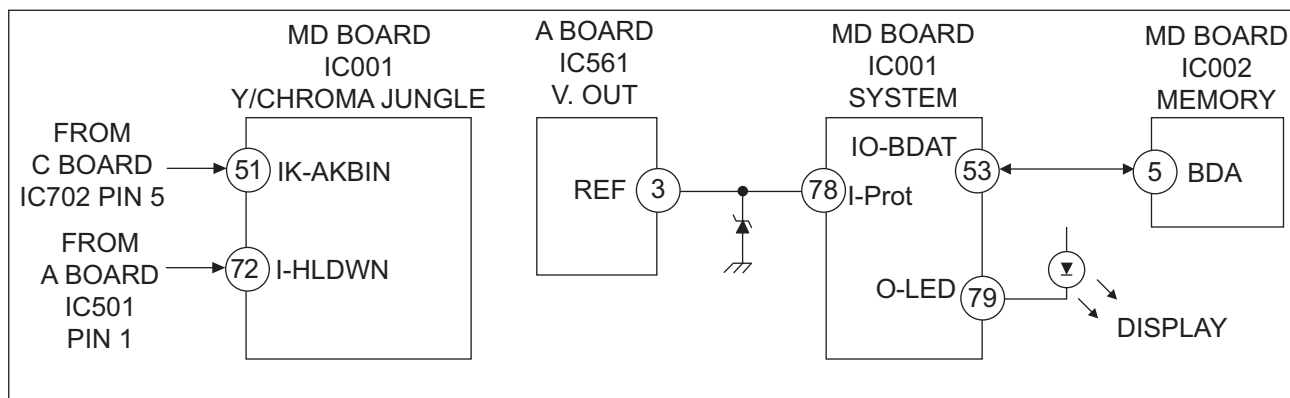
To clear the result display to "0", press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:



Quitting the Self-Diagnostic Screen

To quit the entire self-diagnostic screen, turn off the power switch on the Remote Commander or the main unit.

Self-Diagnostic Circuit



+B overcurrent (OCP)

Occurs when an overcurrent on the +B (135V) line is detected by pin 72 of IC001 (M Board). If the voltage of pin 72 of IC001 (M Board) is less than 1V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

I-Prot

Occurs when an absence of the vertical deflection pulse is detected by pin 78 of IC001 (M Board). Power supply will shut down when waveform interval exceeds 2 seconds.

IK (AKB)

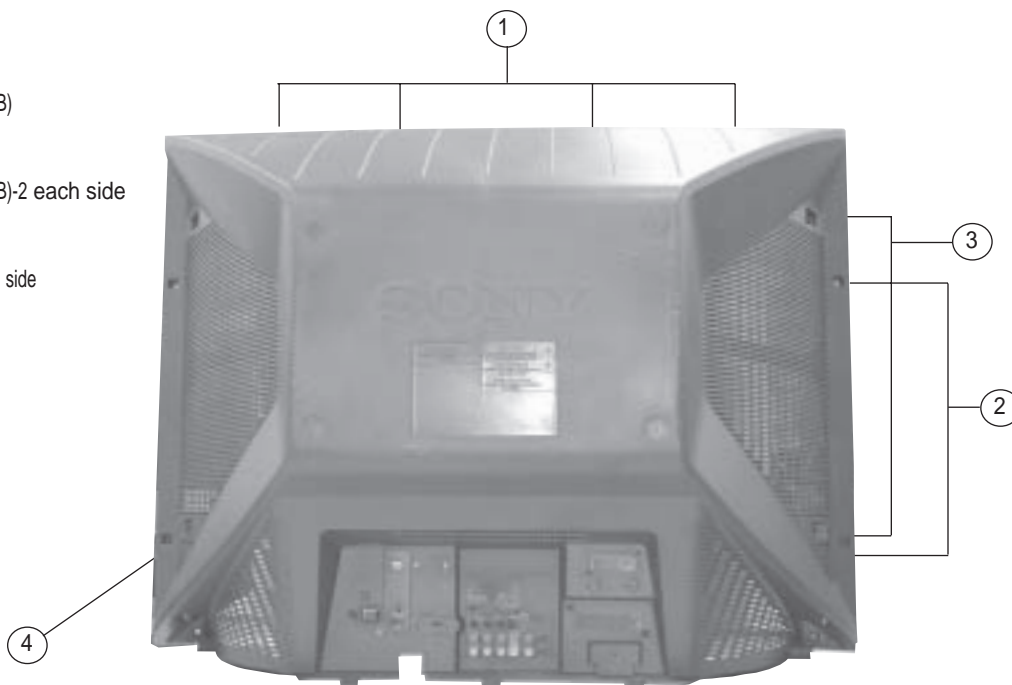
If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC001 (M Board). TV will stay on, but there will be no picture.

*(Refers to the RGB levels of the AKB detection Ref pulse that detects IK).

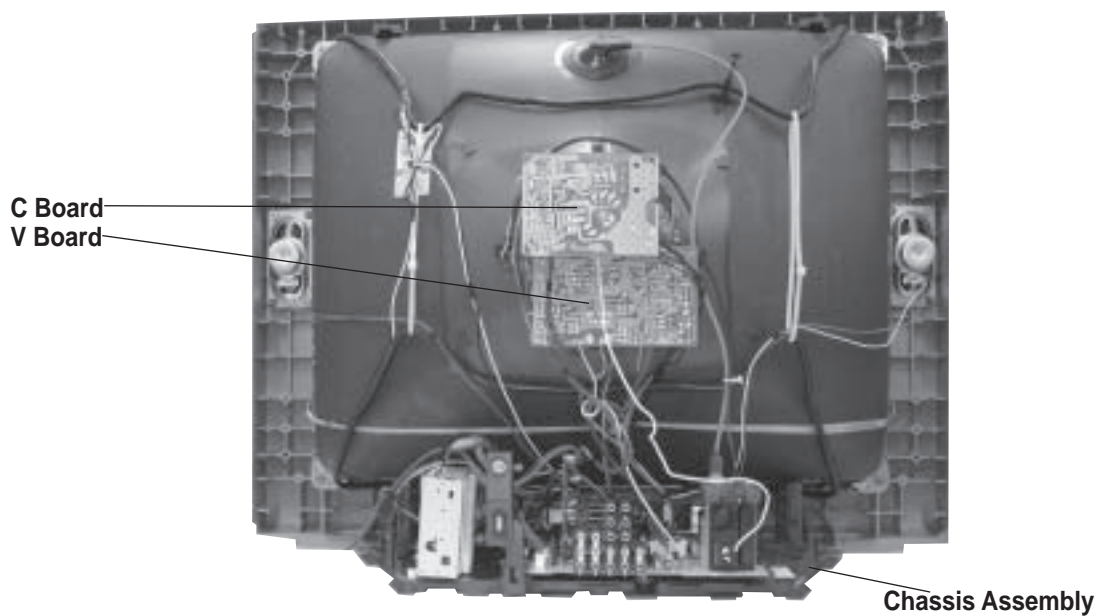
SECTION 1: DISASSEMBLY

1-1. REAR COVER REMOVAL

- ① Remove screws from top of cover.
4 Screws SCREW +BVTP 3X12 TYPE2 TT (B)
- ② Remove screws from sides of cover.
4 Screws SCREW +BVTP 3X12 TYPE2 TT (B)-2 each side
- ③ Remove screws from sides of cover.
4 SCREW +BVTP 4X16 TYPE2 TT (B) - 2 each side
- ④ Remove rear cover

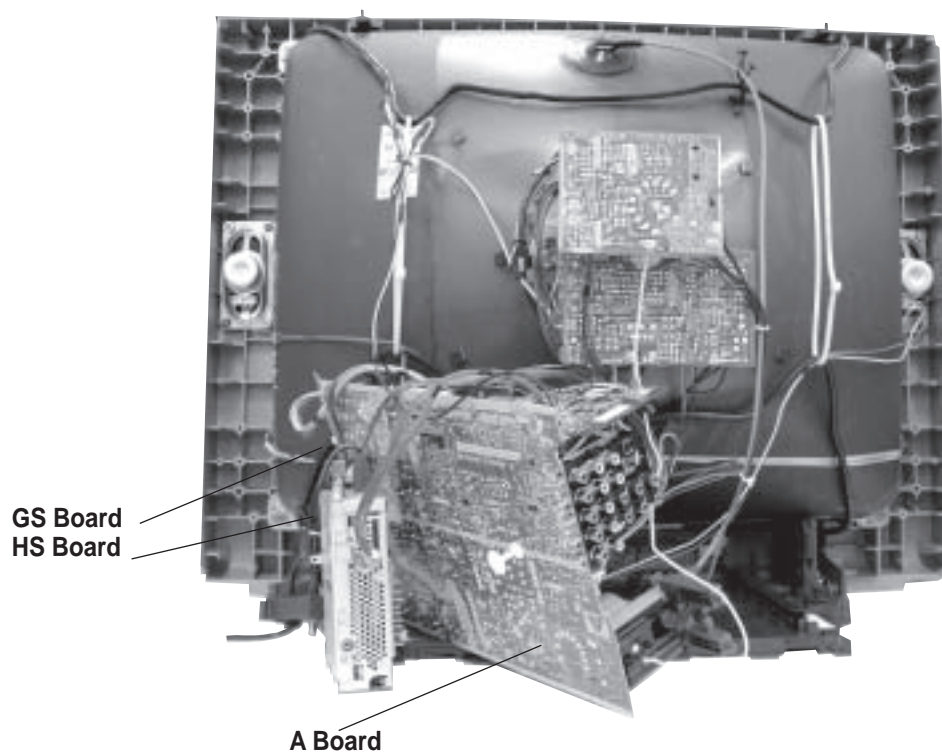


1-2. CHASSIS ASSEMBLY REMOVAL



1-3. SERVICE POSITION

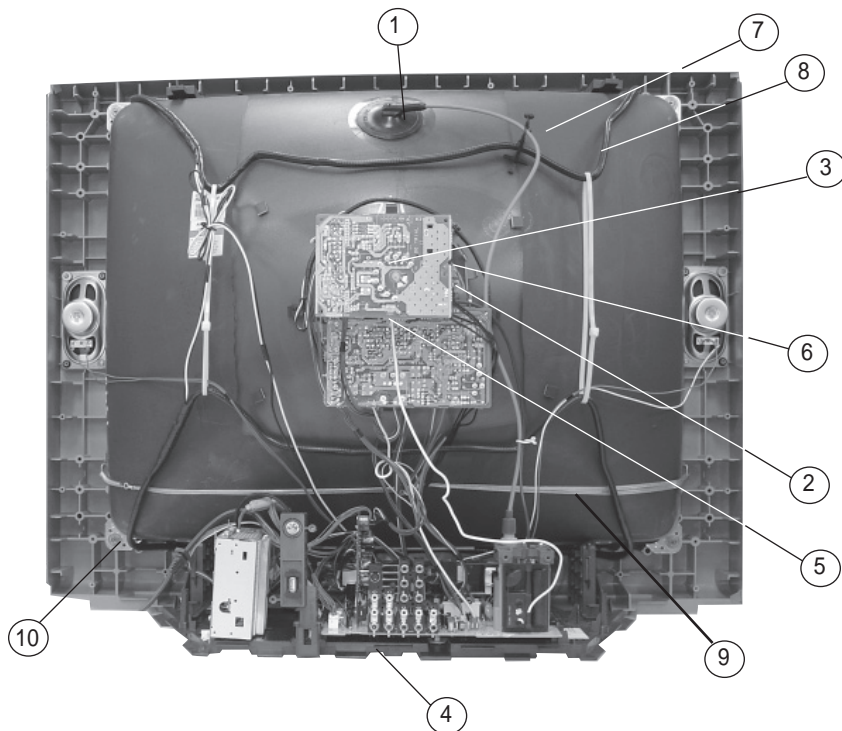
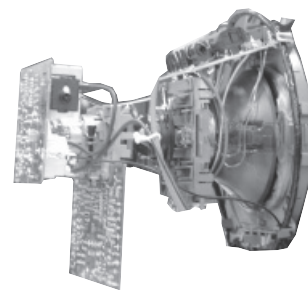
- ① Disconnect the CN501 cable from the A Board.
- ② Press on catch tab to release A Board.
- ③ Gently pull the A Board forward to access the GS and HS Boards.
- ④ Gently continuing pulling the A Board, GS Board and HS Board forward to place in service position.
- ⑤ Reconnect CN501.



1-4. PICTURE TUBE REMOVAL

WARNING: BEFORE REMOVING THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.



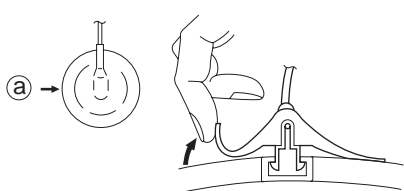
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the neck assembly fixing screw and remove.
6. Loosen the deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the degaussing coil holders.
8. Remove the degaussing coils.
9. Remove the CRT grounding strap and spring tension devices.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT [Take care not to handle the CRT by the neck].

ANODE CAP REMOVAL PROCEDURE

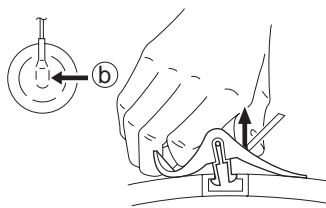
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT **before** attempting to remove the anode cap. Short between anode and coated earth ground strap of CRT.

NOTE: After removing the anode cap, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield, or carbon painted on the CRT.

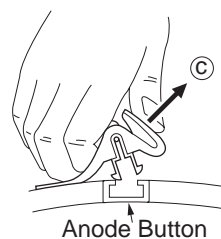
REMOVAL PROCEDURES



Turn up one side of the rubber cap in the direction indicated by arrow (a) .



Use your thumb to pull the rubber cap firmly in the direction indicated by arrow (b) .

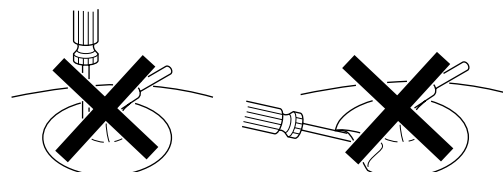


Anode Button

When one side of the rubber cap separates from the anode button, the anode cap can be removed by turning the rubber cap and pulling it in the direction of arrow (c) .

HOW TO HANDLE AN ANODE CAP

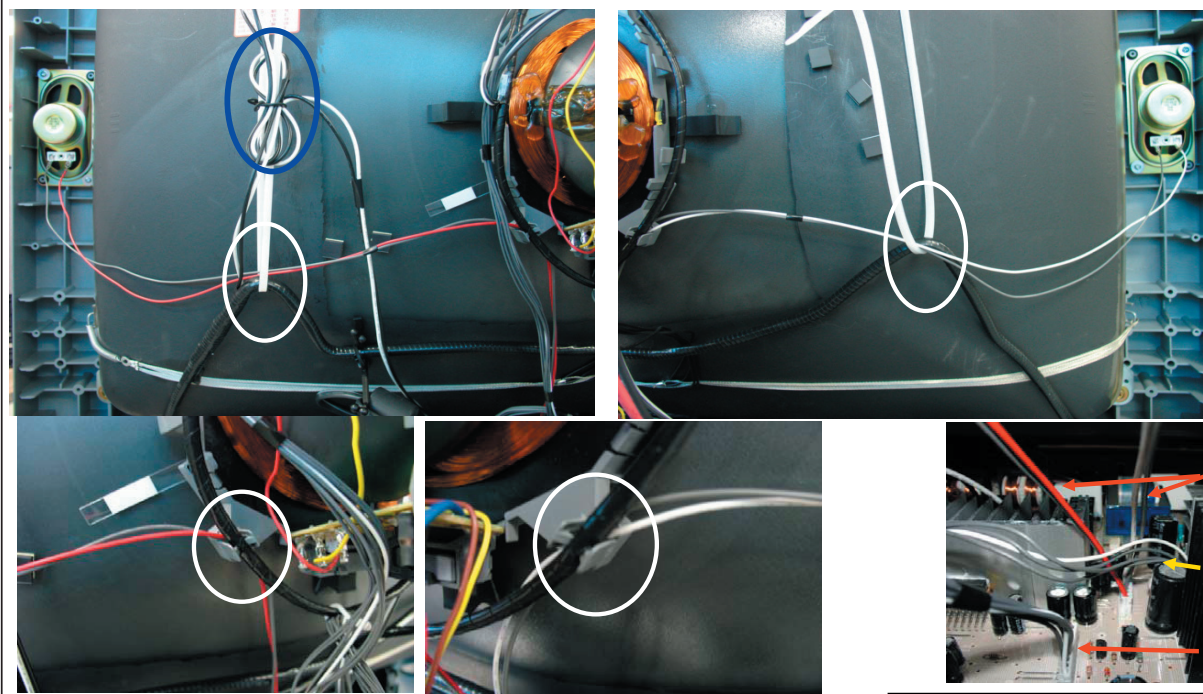
1. Do not use sharp objects which may cause damage to the surface of the anode cap.
2. To avoid damaging the anode cap, do not squeeze the rubber covering too hard. A material fitting called a shatter-hook terminal is built into the rubber.
3. Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



CABLE WIRE DRESSING

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- Dress Right & left speaker wire through DGC's tie wrap & DY's clip as shown in pictures.
- Fix DGC wire to DGC's tie wrap using a 9mm purse lock (3-703-982-02).

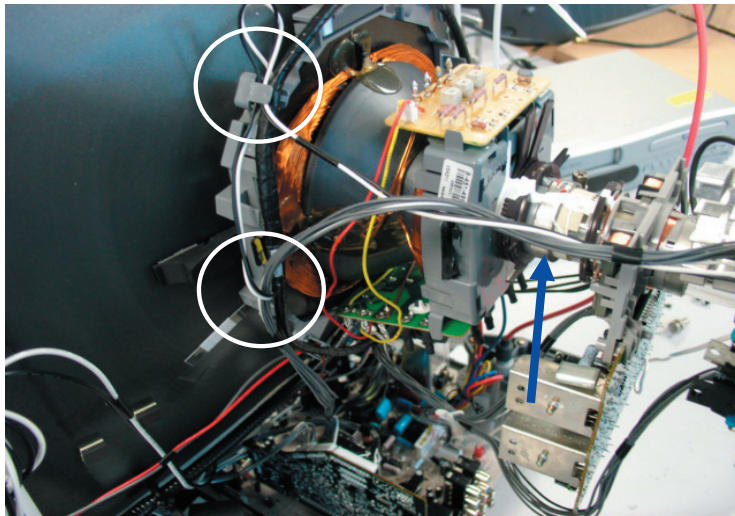
NOTE: 4P (14v) harness (A/CN201-GS/CN1650) should be between speaker harness (A/CN401-Speakers) & VM harness (A/CN502-V/CN901) of as shown in picture.

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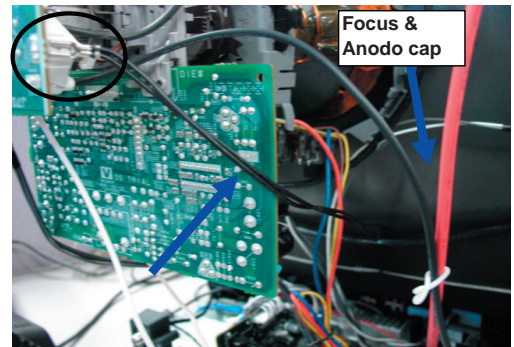
32FS130



- Install rotation coil lead wire connection under DY clip.
- Dress RGB harness (MD/CN301~ C/CN705) over Rotation coil lead wire.
- Dress RGB & Rotation coil lead wire harnesses interlace twice as picture shows.



Dress CRT ground behind DGC as picture shows.



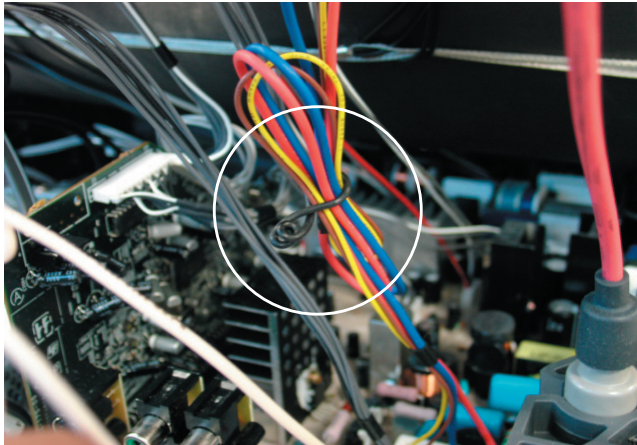
Dress CRT ground beside V bord. Keep away from Focus & Anodo cap wires. Connect CRT ground on upper tap (CN703) as shown in picture

Rev 1.2

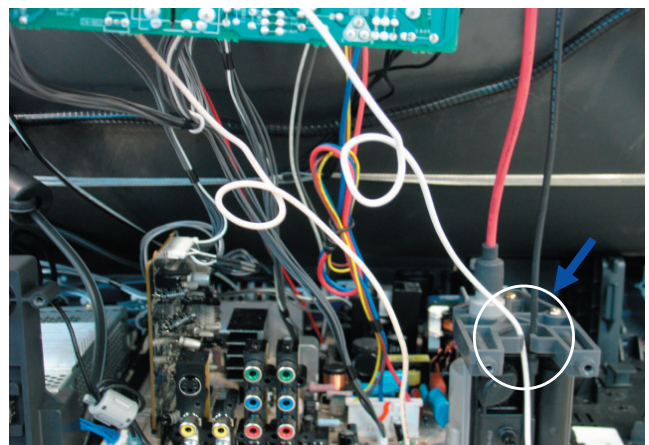
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KD-32FS130 MODELS ONLY

32FS130



- Dress DY's lead wire using a 9mm purse lock (3-703-982-02).



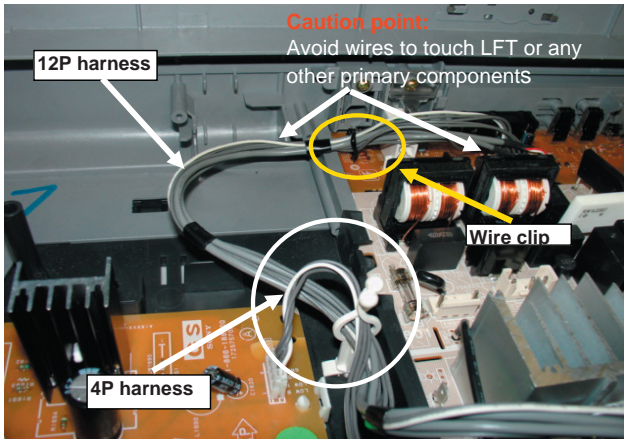
Twist G2 & DF wire without stressing it, as picture shows. Pass G2 wire through FBT clip.

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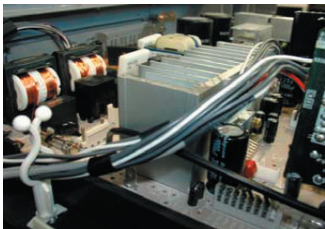
Caution point:
Avoid wires to touch LFT or any other primary components

12P harness

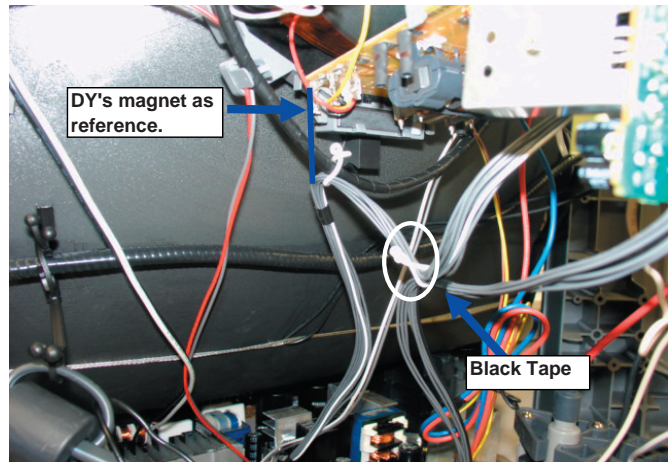
Wire clip

4P harness

- Fix 12P harness (HS/CN1004~MD/CN303) using a wire clip (4-051-925-01) & purse lock (4-072-499-11).
- Dress 4P harness (A/CN201~GS/CN1650) using a purse lock as picture shown.



Pass 12P (HS/CN1004~MD/CN303) & 4P (A/CN201~GS/CN1650) harnesses between audio heatsink & MD board as shown in picture.



DY's magnet as reference.

Black Tape

- Fix VM harness (A/CN502~V/CN901) to rotation coil using a 5mm purse lock (3-703-981-02) as picture shows. Take as reference DY's magnet.
- Dress Heater (A/CN503~C/CN706) & VM harness using a 5mm purse lock (3-703-981-02) as shown in picture, take as reference black tape of Heater harness.

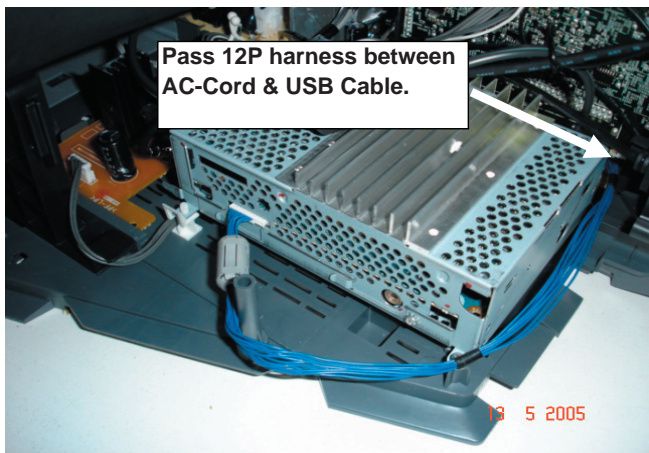
Rev 1.2

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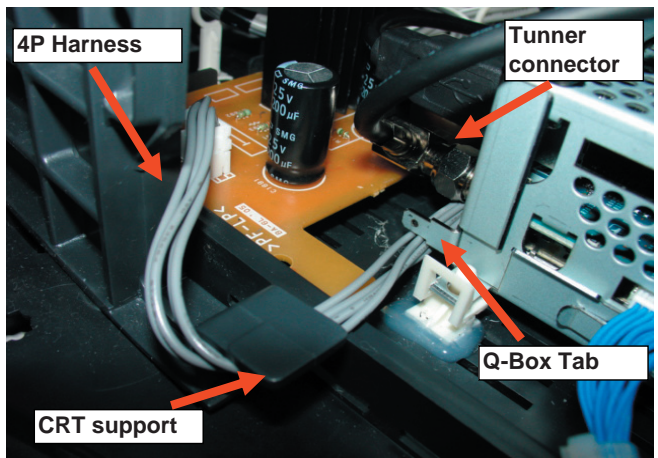
KD-32FS130 MODELS ONLY

32FS130

CRITICAL POINT FOR EMI RESULTS, DRESSING MUST BE FOLLOW AS SHOWN IN PICTURES



- Pass 12P harness (A/CN101~Q-BOX) around Q-BOX as shown in picture.



- Dress 4P (10.5V) harness (GS/CN1670~Q-BOX) pass under Tunner connector, Q-Box tab & CRT support as shown in picture.

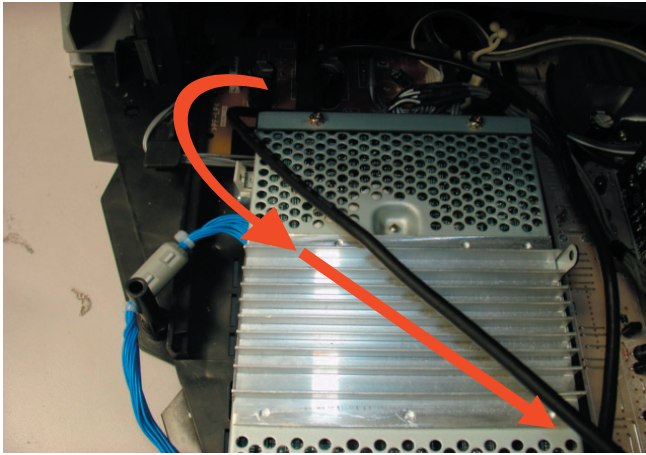
Rev 1.2

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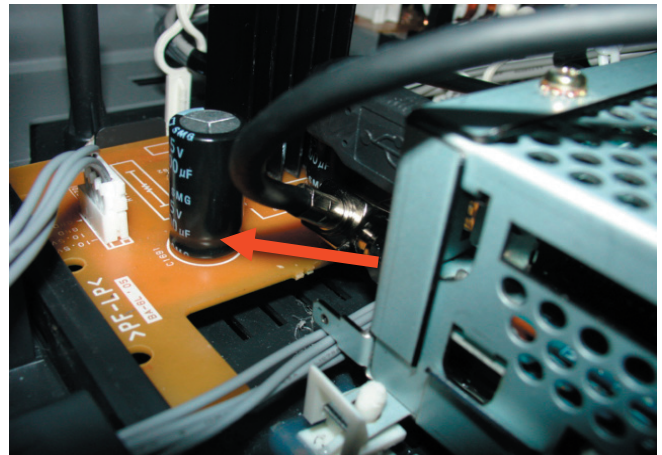
KD-32FS130 MODELS ONLY

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CRITICAL POINT FOR EMI RESULTS, DRESSING MUST BE FOLLOW AS SHOWN IN PICTURES



- Dress Tuner cable as shown in picture.



- Tuner connector should be as shown in picture.

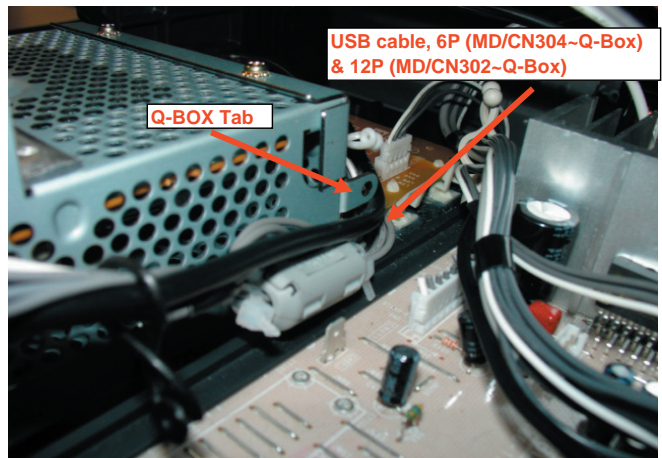
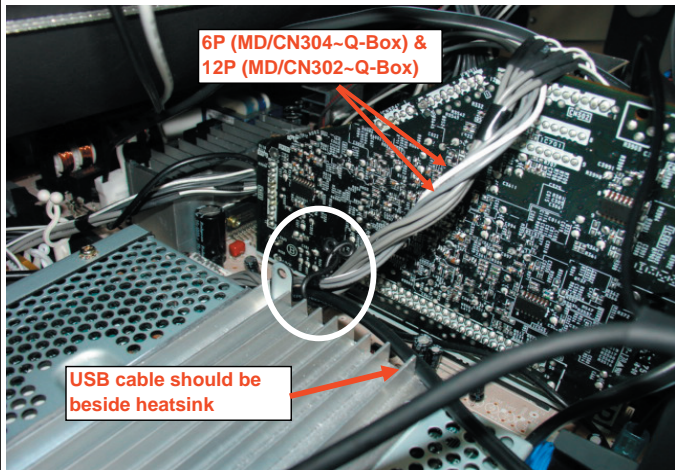
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KD-32FS130 MODELS ONLY

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CRITICAL POINT FOR EMI RESULTS, DRESSING MUST BE FOLLOW AS SHOWN IN PICTURES



- Interlace 6P (MD/CN304-Q-Box) & 12P (MD/CN302-Q-Box) harnesses 7 times.
- Dress 6P, 12P & USB cable using a 9mm purse lock (3-703-982-02) as shown in picture

- Dress USB Cable, 6P (MD/CN304-Q-Box) & 12P (MD/CN302-Q-Box) harnesses under Q-BOX Tab as shown in picture

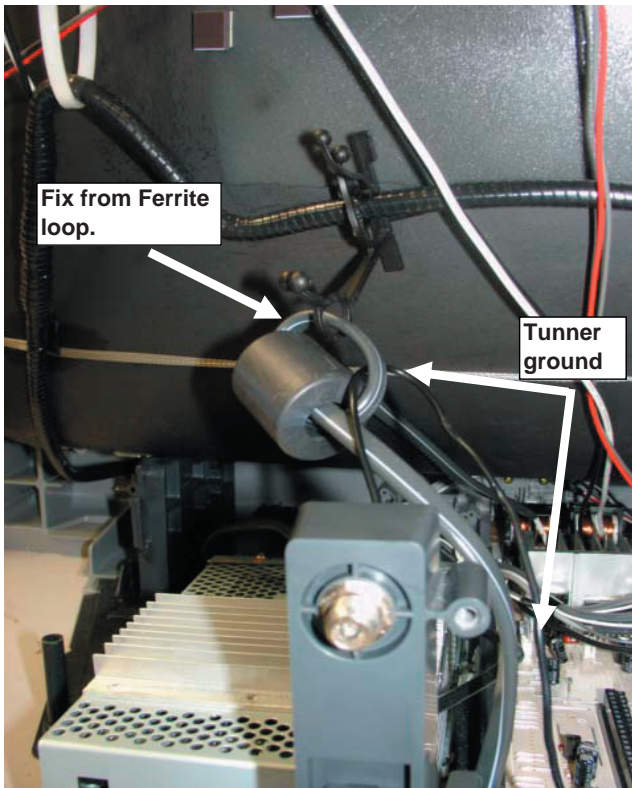
Rev 1.2

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KD-32FS130 MODELS ONLY

32FS130

CRITICAL POINT FOR EMI RESULTS, DRESSING MUST BE FOLLOW AS SHOWN IN PICTURES



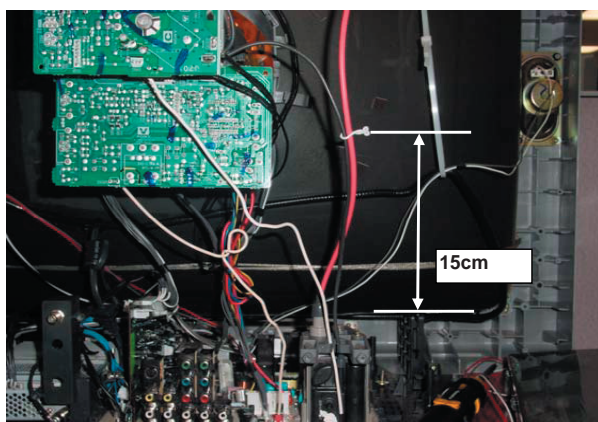
-Fix AC-Cord to DGC using a DGC purse lock (4-081-411-02). Fix AC-Cord from ferrite loop.
-Pass Tunner ground through ferrite loop as shown in picture.

Rev 1.2

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KD-32FS130 MODELS ONLY

32FS130



Dress focus lead and HV cable together using 5mm purse lock (3-703-981-02)



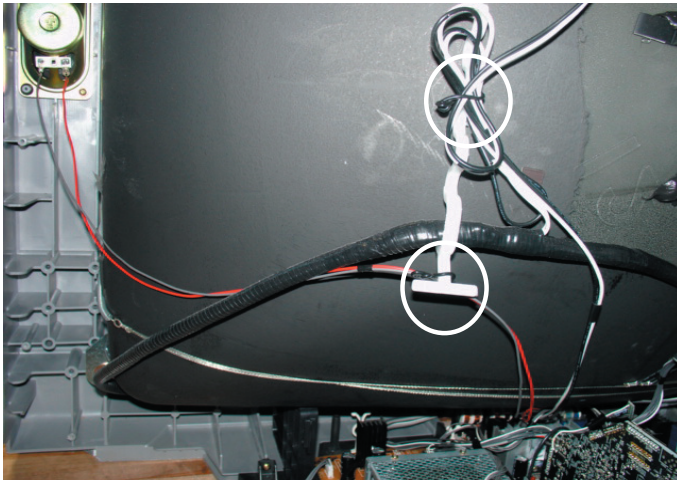
Install purse lock (4-081-411-02) using carbon paint as reference.

Rev 1.2

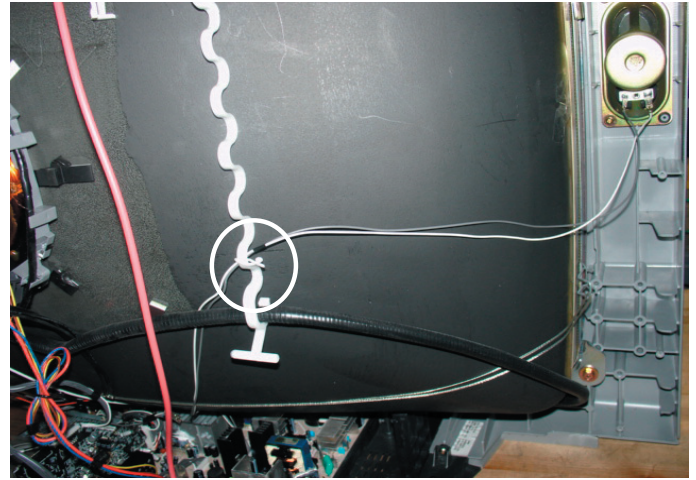
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KD-36FS130 MODELS ONLY

36FS130

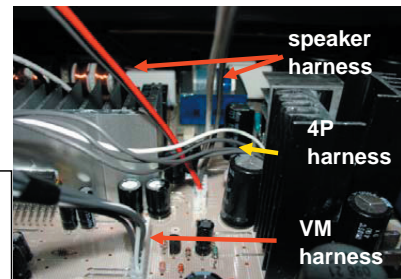


- Fix Right speaker to DGC hook using a 9mm purse lock (3-703-982-02).
- Fix DGC lead wire to DGC's tie wrap with a 9mm purse lock (3-703-982-02) as shown in picture.



- Fix Left speaker to DGC hook using a 11mm purse lock (3-703-983-02).

NOTE: 4P (14v) harness (A/CN201~GS/CN1650) should be between speaker harness (A/CN401~Speakers) & VM harness (A/CN502~V/CN901) of as shown in picture.

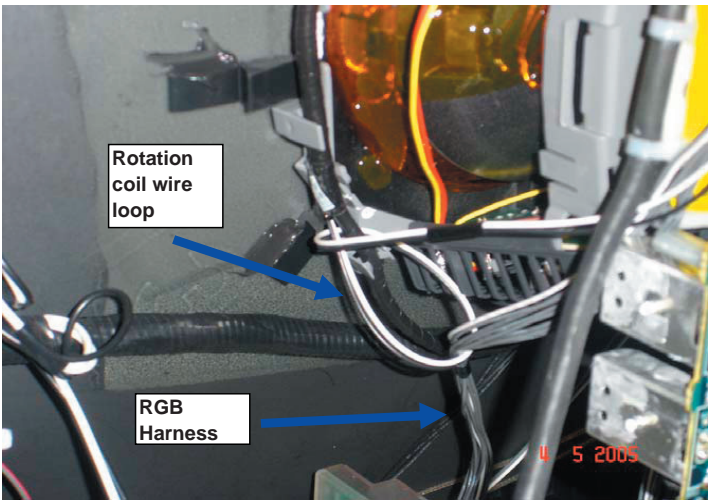
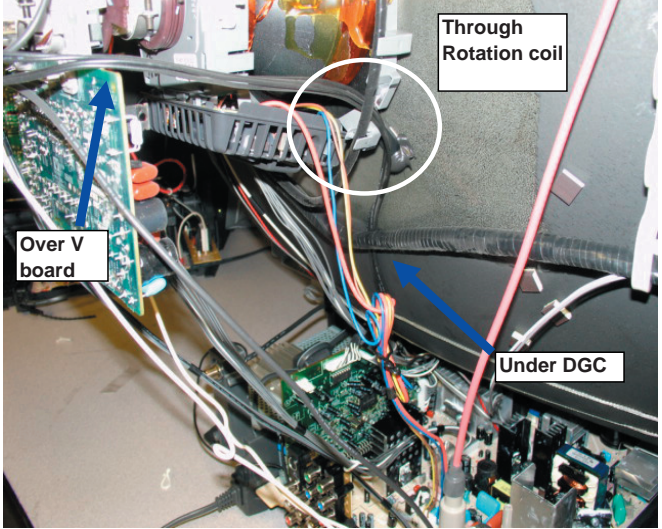


Rev 1.2

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KD-36FS130 MODELS ONLY

36FS130

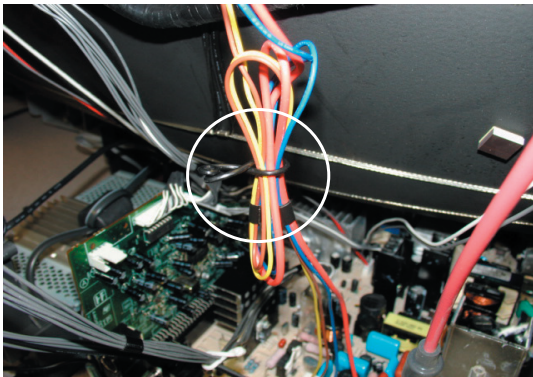
- Dress rotation coil lead wire make a loop as shown in picture.
 - Pass RGB harness (MD/CN301~ C/CN705) through rotation coil lead wire loop as shown in picture.

Dress earth ground wires under DGC, through rotation coil & over V board as shown in picture.

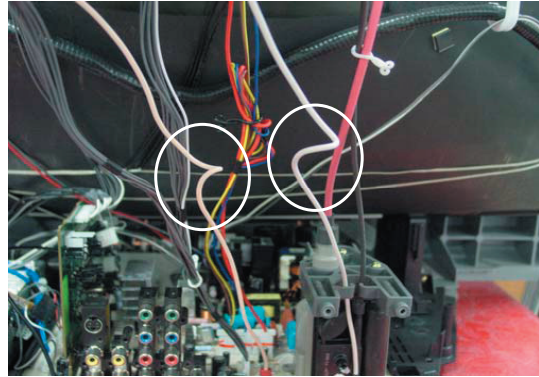
Rev 1.2
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KD-36FS130 MODELS ONLY

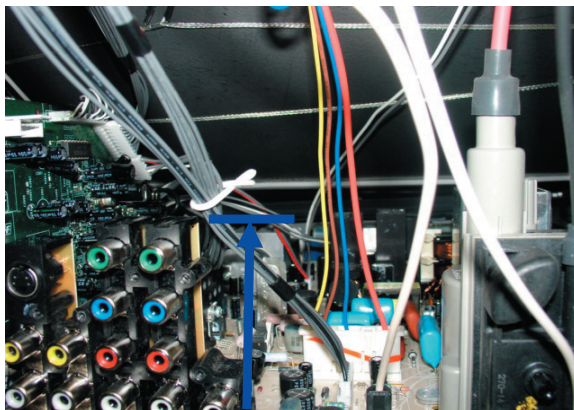
36FS130



- Dress DY's lead wire using a 9mm purse lock (3-703-982-02).



Twist G2 & DF wire without stressing it, as picture shows.



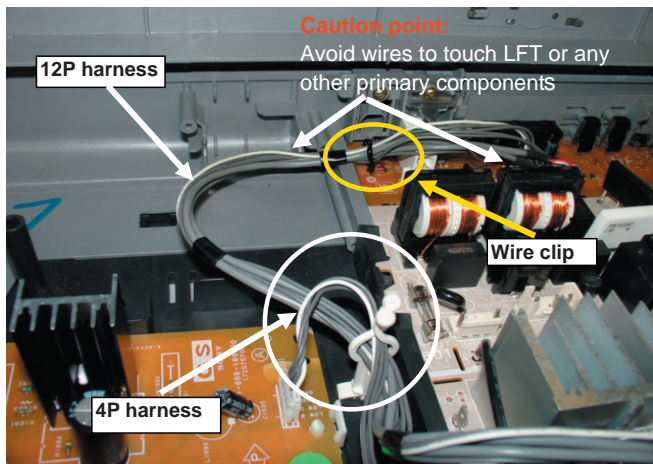
Dress VM & Heater harnesses using a 5mm purse lock (3-703-981-02). Take as Reference YUV jack height as picture shows.

Rev 1.2

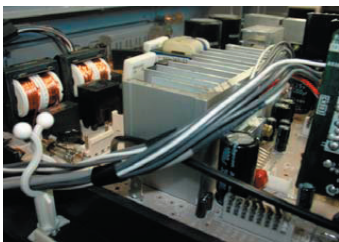
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KD-36FS130 MODELS ONLY

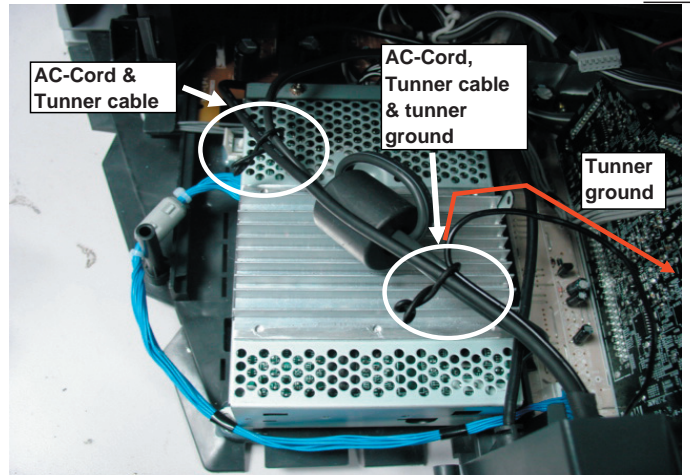
36FS130



- Fix 12P harness (HS/CN1004~MD/CN303) using a wire clip (4-051-925-01) & purse lock (4-072-499-11).
- Dress 4P harness (A/CN201~GS/CN1650) using a purse lock as picture shown.

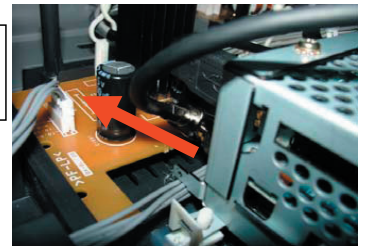


Pass 12P (HS/CN1004~MD/CN303) & 4P (A/CN201~GS/CN1650) harnesses between audio heatsink & MD board as shown in picture.



Dress AC-Cord, Tuner cable & Tunner ground using two 9mm purple locks DGC purse lock (3-703-982-02) as shown in picture. **Keep away tuner ground as possible of Q-BOX**

- Tunner connector should be as shown in picture.



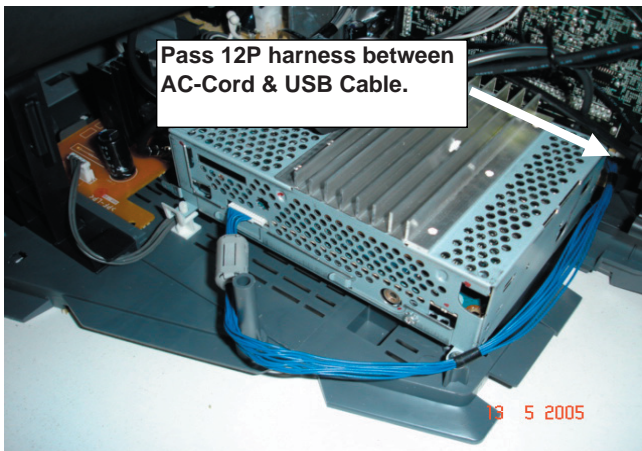
Rev 1.2

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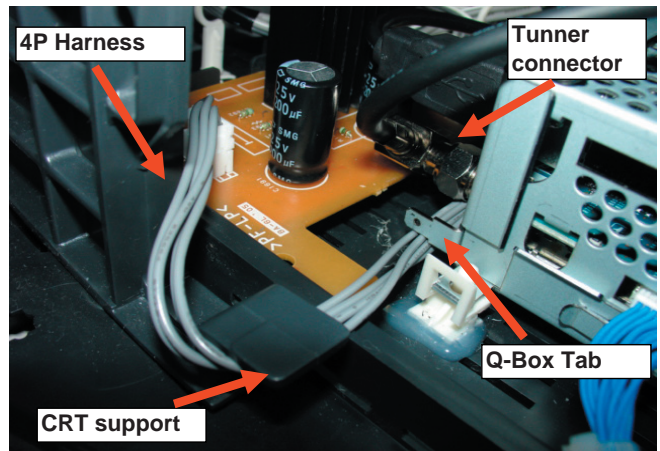
KD-36FS130 MODELS ONLY

CRITICAL POINT FOR EMI RESULTS, DRESSING MUST BE FOLLOW AS SHOWN IN PICTURES

36FS130



- Pass 12P harness (A/CN101~Q-BOX) around Q-BOX as shown in picture.



- Dress 4P (10.5V) harness (GS/CN1670~Q-BOX) pass under Tunner connector, Q-Box tab & CRT support as shown in picture.

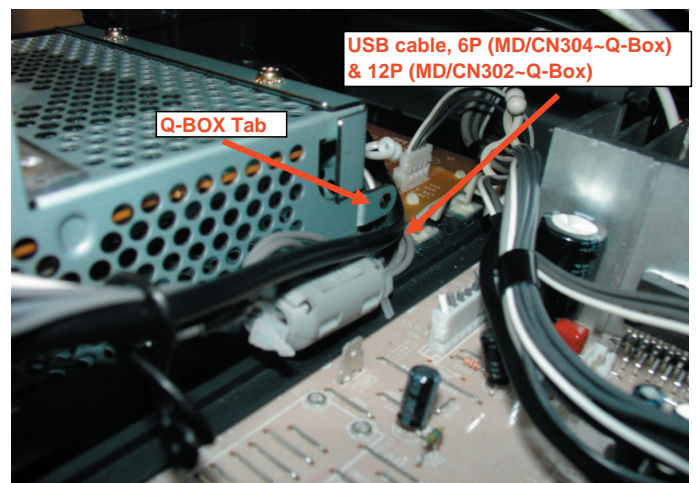
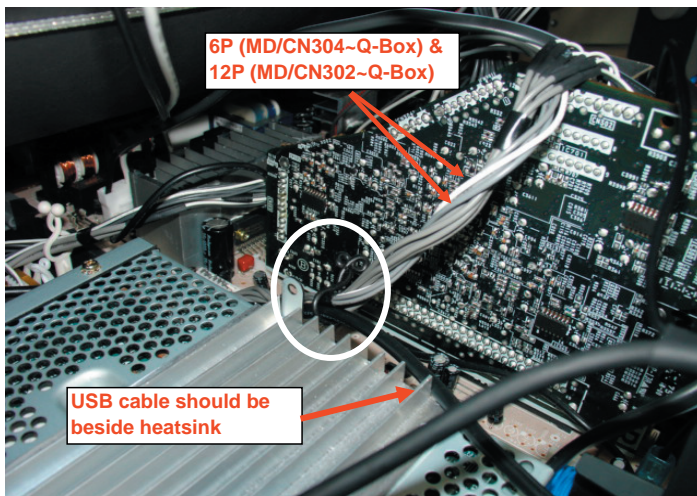
Rev 1.2

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KD-36FS130 MODELS ONLY

36FS130

CRITICAL POINT FOR EMI RESULTS, DRESSING MUST BE FOLLOW AS SHOWN IN PICTURES



- Interlace 6P (MD/CN304~Q-Box) & 12P (MD/CN302~Q-Box) harnesses 7 times.
- Dress 6P, 12P & USB cable using a 9mm purse lock (3-703-982-02) as shown in picture

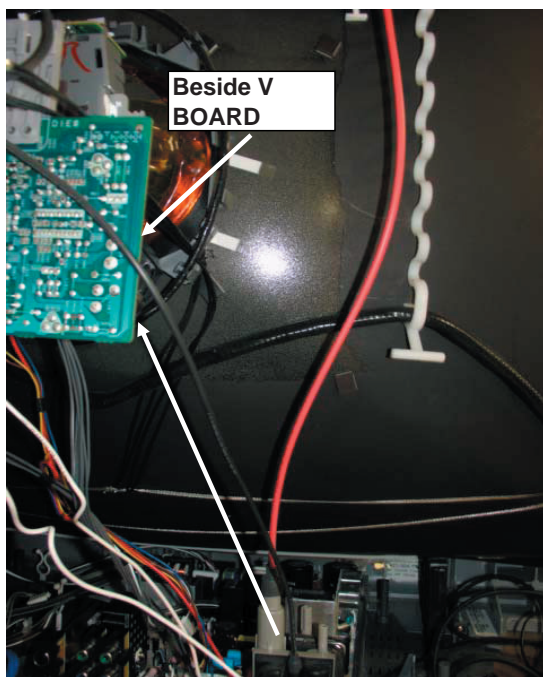
- Dress USB Cable, 6P (MD/CN304~Q-Box) & 12P (MD/CN302~Q-Box) harnesses under Q-BOX Tab as shown in picture

Rev 1.2

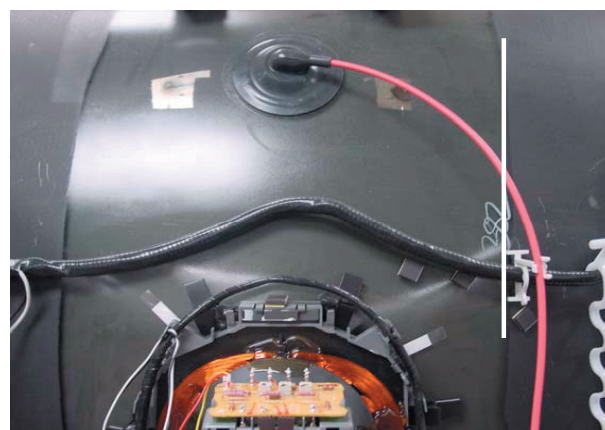
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KD-36FS130 MODELS ONLY

36FS130



- Pass focus lead beside V board as shown in picture.



Install purse lock (4-089-469-11) using carbon paint as reference.

Rev 1.2

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SECTION 2: SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

Set the controls as follows unless otherwise noted:

- VIDEO MODE: Pro
- PICTURE CONTROL: Normal
- BRIGHTNESS CONTROL: Normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)
5. White Balance

Note Test Equipment Required:

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter

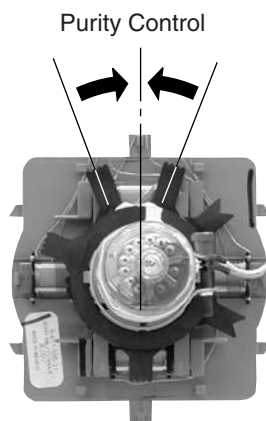
2-1. BEAM LANDING

Before beginning adjustment procedure:

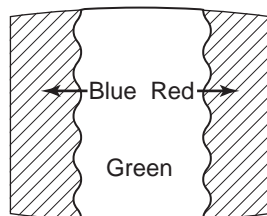
1. Feed in the white pattern signal.

Adjustment Procedure

1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:

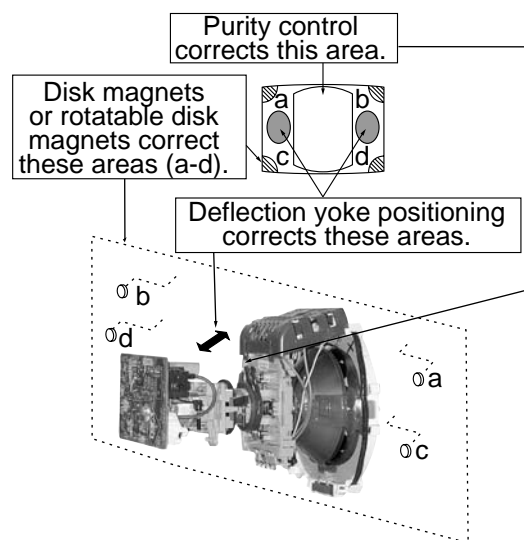
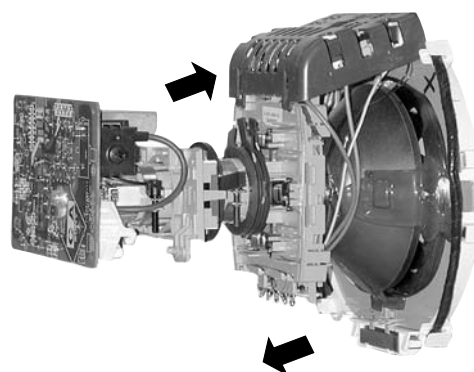


3. Turn the raster signal of the pattern generator to green.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



5. Move the deflection yoke forward, and adjust so that the entire screen becomes green.

6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. If landing at the corner is not right, adjust by using the disk magnets.



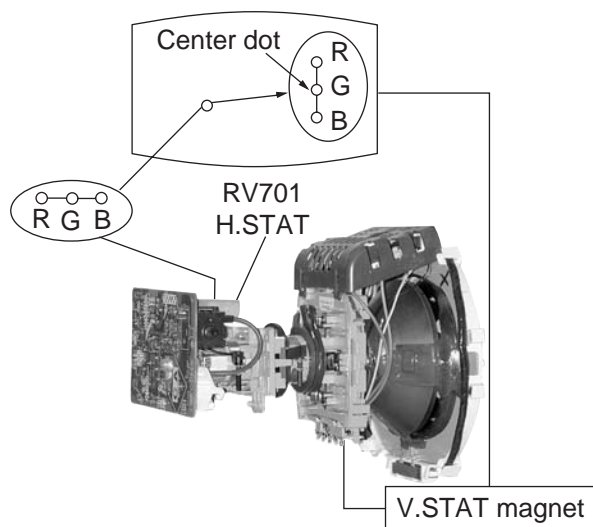
2-2. CONVERGENCE

Before starting convergence adjustments:

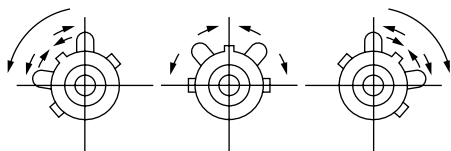
- 1 Perform FOCUS, VLIN and VSIZE adjustments.
2. Set BRIGHTNESS control to minimum.
3. Feed in dot pattern.

Vertical Static Convergence

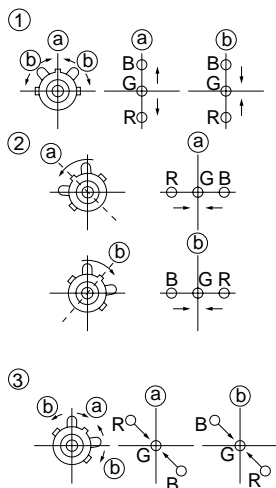
1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen.



2. Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



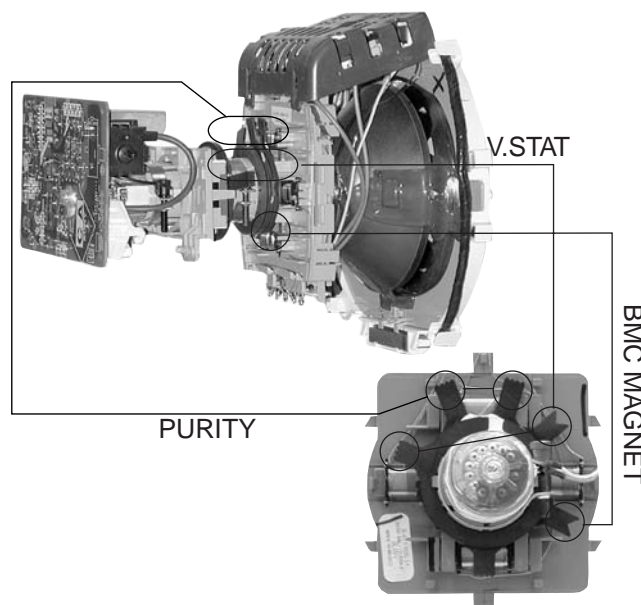
When the V. STAT magnet is moved in the direction of arrow a and b, red, green, and blue dots move as shown below:



Horizontal Static Convergence

If the blue dot does not converge with the red and green dots, perform the following:

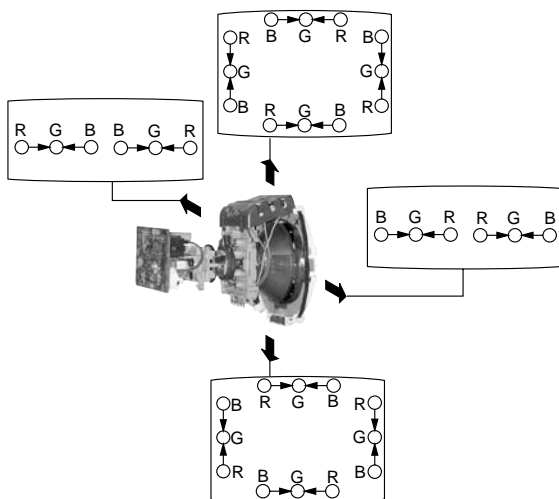
1. Move H STAT VR magnet (a) to correct insufficient H.Static convergence.



Dynamic Convergence Adjustment

Before performing this adjustment, perform Horizontal and Vertical Static Convergence Adjustment.

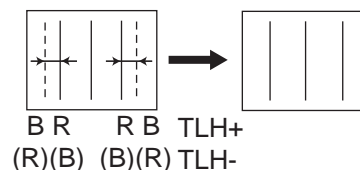
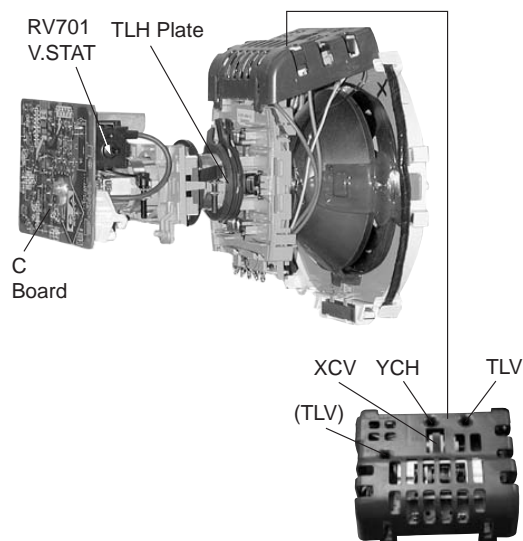
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below:



4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

TLH Plate Adjustment

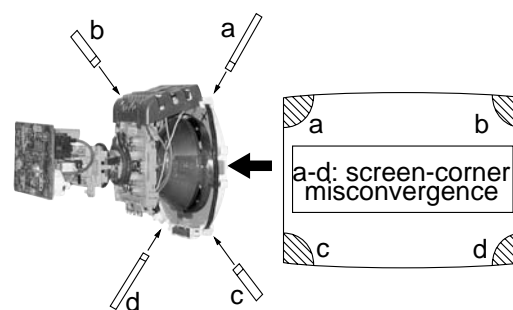
1. Input crosshatch pattern.
2. Adjust PICTURE QUALITY to standard, PICTURE and BRIGHTNESS to 50%, and OTHER to standard.
3. Adjust the Horizontal Convergence of red and blue dots by tilting the TLH plate on the deflection yoke.



4. Adjust XCV core to balance X axis.
 5. Adjust YCH VR to balance Y axis.
 6. Adjust vertical red and blue convergence with V.TILT (TLV VR.)
- Note: Perform adjustment 3-6 while tracking items 1 and 2.

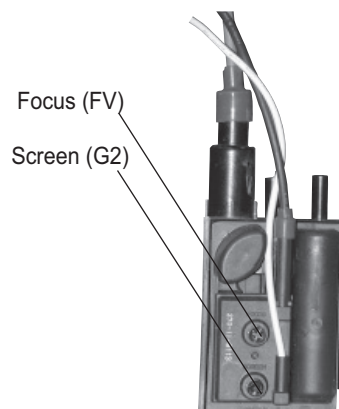
Screen-Corner Convergence

1. Affix a permalloy assembly corresponding to the misconverged areas:



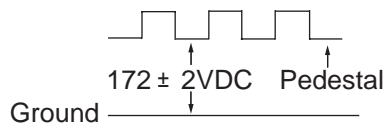
2-3. FOCUS

1. Adjust FOCUS control for best pictures.



2-4. SCREEN (G2)


1. Input a dot pattern.
2. Set the PICTURE and BRIGHTNESS controls at minimum and COLOR control at normal.
3. Adjust SBRT, GCUT, BCUT in service mode with an oscilloscope as shown below so that voltages on the red, green, and blue cathodes are $172 \pm 2\text{VDC}$.





4. Observe the screen and adjust SCREEN (G2) VR in FBT to obtain the faintly visible background of dot signal.

SECTION 3: SAFETY RELATED ADJUSTMENTS

3-1. R530, R531 CONFIRMATION METHOD (HV HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components which are marked with  on the schematic diagram:

Part Replaced ()	Adjustment ()
C531, C532, D519, D520, D521, IC501, IC600, PH602, R529, R530, R531, R532, R533, R550, T503 (FBT), T504 (DFT)	HV HOLD-DOWN R530, R531


Preparation Before Confirmation

- Using a Variac, apply AC input voltage: 120 +/- 2.0 VAC.
- Turn the POWER switch ON.
- Input a white signal and set the PICTURE and BRIGHT controls to maximum.
- Confirm that the voltage of more than 23.0 VDC appears between TP85 and ground on the A Board.

Hold-Down Operation Confirmation

- Connect the current meter between Pin 11 of the FBT (T503) and the PWB land where Pin 11 would normally attach. (See Figure 1).
- Input a dot signal and set PICTURE and BRIGHTNESS to minimum: IABL = 2175 + 100/ -325 μ A.
- Confirm the voltage of A Board TP91 is 134.6 \pm 1.0 VDC.
- Connect the digital voltmeter and the DC power supply to TP85 and ground. (See Figure 1).
- Increase the DC power voltage gradually until the picture blanks out.
- Turn DC power source off immediately.
- Read the digital voltmeter indication:
KV-27FS320 Only (standard = 24.78 + 0.0/ - 0.1 VDC).
All except KV-27FS320 (standard = 27.24 + 0.0/ - 0.1 VDC).
- Input a white signal and set PICTURE and BRIGHTNESS to maximum: IABL = 2175 + 100/ -325 μ A.
- Repeat steps 4 to 7.

Hold-Down Readjustment

If the setting indicated in Step 2 of Hold-Down Operation Confirmation cannot be met, readjustment should be performed by altering the resistance value of R530, R531 component marked with .

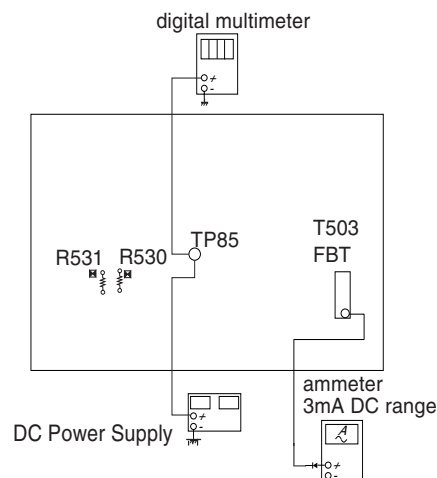



Figure 1

3-2. B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Always perform the following adjustments when replacing the following components, which are marked with  on the schematic diagram on the A Board:

Adjustment ()
A BOARD IC600, PH602

- Using a Variac, apply AC input voltage: 130 + 2.0/-0.0 VAC
- Input a monoscope signal.
- Set the PICTURE control and the BRIGHT control to minimum.
- Confirm the voltage on A Board between TP23 and ground is less than 136.5 VDC.
- If step 4 is not satisfied, replace R530 and R531 on A Board and repeat the above steps.

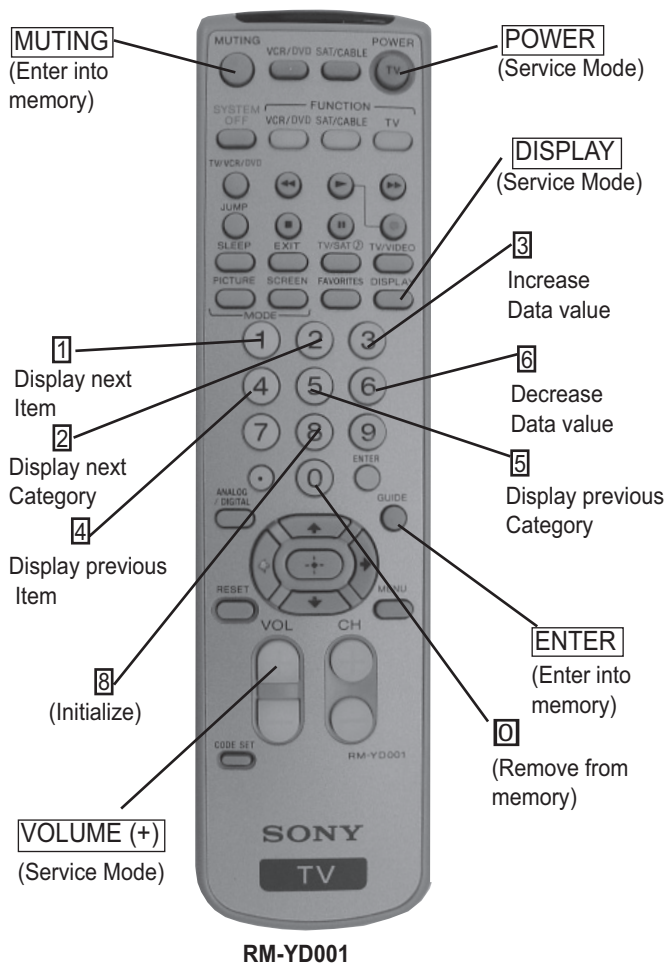
SECTION 4: CIRCUIT ADJUSTMENTS

Electrical Adjustments by Remote Commander

Use the Remote Commander (RM-YD001) to perform the circuit adjustments in this section.

Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

4-1. REMOTE ADJUSTMENT BUTTONS AND INDICATORS

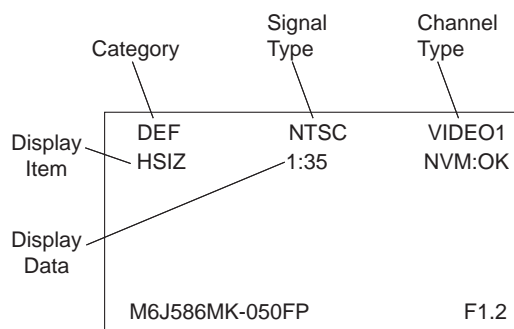


4-2. ACCESSING THE SERVICE ADJUSTMENT MODE

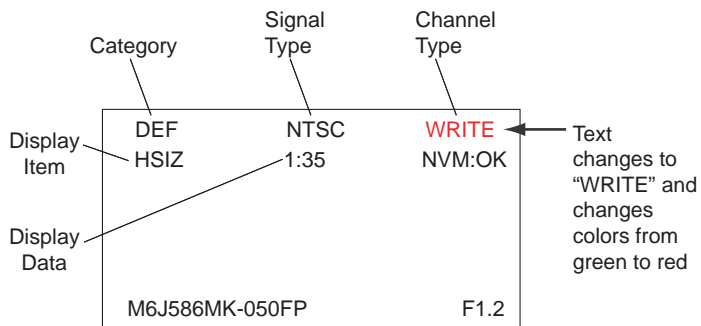
- Standby mode (Power off).
- Press the following buttons on the remote commander within a second of each other:

DISPLAY → Channel **5** → Sound Volume **4** → **POWER**

The screen displays the first service data category item.



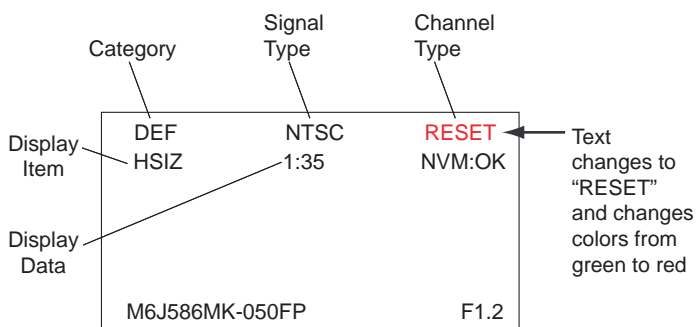
- On the Remote Commander press **2** or **5** to select the category.
- Press **1** or **4** to select the item.
- Press **3** or **6** to change the data value.
- Press **MUTING** then **ENTER** to write into memory.



Service Adjustment Mode Memory

Use the following procedure when adjusting IDs 0-7 and when replacing and adjusting IC002.

1. Access Service Adjustment Mode.
2. Press **8** then **ENTER** on the Remote Commander to initialize.



The TV powers off after completing the initialization process.

4-3. CONFIRMING SERVICE ADJUSTMENT CHANGES

1. After completing adjustments, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
2. Access Service Adjustment Mode.
3. Using the buttons on the Remote Commander, locate the adjusted items again to confirm they were adjusted.

4-4. WHITE BALANCE ADJUSTMENTS

1. Input an entire white signal with burst.
2. Access Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Adjust with SBRT if necessary.
5. Press **2** or **5** to select the VP1 category.
6. Press **1** or **4** to display the GCUT item.
7. Press **3** or **6** to adjust for the best white balance.
8. Press **1** or **4** to display the BCUT item.
9. Press **3** or **6** to adjust for the best white balance.
10. Set the PICTURE and BRIGHTNESS to maximum.
11. Press **1** or **4** to display the GDRV item.
12. Press **3** or **6** to adjust for the best white balance.
13. Press **1** or **4** to display the BDRV item.
14. Press **3** or **6** to adjust for the best white balance.
15. Press **MUTING** then **ENTER** to save into the memory.

4-5. A BOARD ADJUSTMENTS

H. Frequency (Free Run) Check

1. Input a TV mode (RF) with no signal.
2. Connect a frequency counter to base of Q501 (TP-25 H. DRIVE) on the A Board.
3. Check H. Frequency for 15735 ± 200 Hz.

V. Frequency (Free Run) Check

1. Select video 1 with no signal input.
2. Set the conditions for a standard setting.
3. Connect the frequency counter to TP-27 (V OUT) or CN501 pin **6** (V DY+) and ground on the A Board .
4. Check that V. Frequency shows 60 ± 4 Hz.

Drive (SCON)

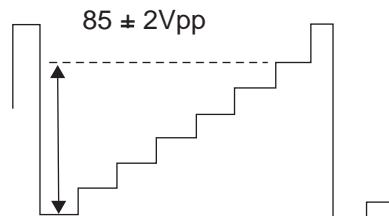
1. Input a color-bar signal and set the level to 75%.
2. Set in Pro mode + PICTURE MAX.
3. Access Service Adjustment Mode.
4. Press **2** or **5** to select the VP1 category.
5. Press **1** or **4** to display the GON item.
6. Press **3** or **6** to adjust to 0.
7. Press **1** or **4** to display the BON item.
8. Press **3** or **6** to adjust to 0.

Note: Leave RON set to "1".

R ON:	ON	(1)
G ON:	OFF	(0)
B ON:	OFF	(0)

9. Connect an oscilloscope probe to C Board, CN705 pin3 (KR).
10. Press **1** or **4** to display the SCON item.

11. Press **3** or **6** to adjust the value of SCON to $85 \pm 2V_{pp}$.



12. Repeat steps 5 thru 8 to reset GON and BON values to "1".

R ON:	ON	(1)
G ON:	ON	(1)
B ON:	ON	(1)

13. Press **MUTING** then **ENTER** to write into memory.

Display Position Adjustment (DISP)

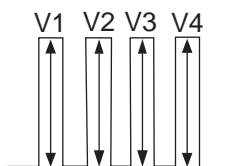
1. Input a color-bar signal.
2. Access Service Adjustment Mode.
3. Press **2** or **5** to select the Microprocessor category.
4. Press **1** or **4** to display the DISP item.
5. Press **3** or **6** to adjust characters to the center.
6. Press **MUTING** then **ENTER** to write into memory.
7. Check to see if the text is displayed on the screen.

Sub Bright Adjustment (SBRT)

1. Input a monoscope signal.
2. Access Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Press **2** or **5** to select the VP1 category.
5. Press **1** or **4** to display the SBRT item.
6. Press **3** or **6** to obtain a faintly visible 20 IRE mark, after that increase +3 steps.
7. Press **MUTING** then **ENTER** to write into memory.

Sub Hue, Sub Color Adjustment (SHUE, SCOL)

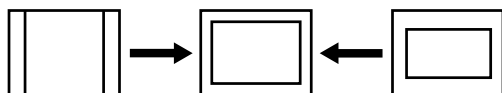
1. Input color-bar signal at 75%.
2. Access Service Adjustment Mode.
3. Set (PIC) to Max and (COL) to 50%.
4. Connect an oscilloscope probe to C Board, CN705 pin ④ (Blue Out).
5. Press **2** or **5** to select the VP1 category.
6. Press **1** or **4** to display the SHUE or SCOL item.
7. While showing the SHUE item, adjust the waveform by pressing **3** or **6** until the second and third bars show the same level ($V2 = V3 < 0.15V_{p-p}$). Set Sub Hue -2 Step.
8. While showing the SCOL item, adjust the waveform by pressing **3** or **6** until the first and fourth bars show the same level ($V1 = V4 < 0.15V_{p-p}$). Set Sub Col +2 Step.



9. Press **MUTING** then **ENTER** to write into memory.

V. Size Adjustment (VSIZ)

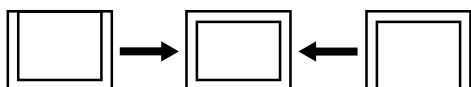
1. Input a crosshatch signal.
2. Access Service Adjustment Mode.
3. Press **2** or **5** to select the DEF category.
4. Press **1** or **4** to display the VSIZ item.
5. Adjust value of VSIZ by pressing **3** or **6** for the best vertical size.
6. Press **MUTING** then **ENTER** to write into memory.



V. Center Adjustment (VPOS)

Perform this adjustment after performing H. Frequency (Free Run) Check.

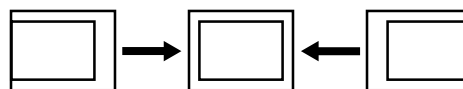
1. Input a crosshatch signal.
2. Access Service Adjustment Mode.
3. Press **2** or **5** to select the DEF category.
4. Press **1** or **4** to display the VPOS item.
5. Adjust value of VPOS by pressing **3** or **6** for the best vertical center.
6. Press **MUTING** then **ENTER** to write into memory.



H. Center Adjustment (HPOS)

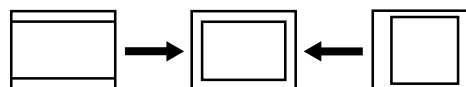
Perform this adjustment after performing H. Frequency (Free Run) Check.

1. Input a crosshatch signal.
2. Access Service Adjustment Mode.
3. Press **2** or **5** to select the DEF category.
4. Press **1** or **4** to display the HPOS item.
5. Adjust the value of HPOS by pressing **3** or **6** for the best horizontal center.
6. Press **MUTING** then **ENTER** to write into memory.



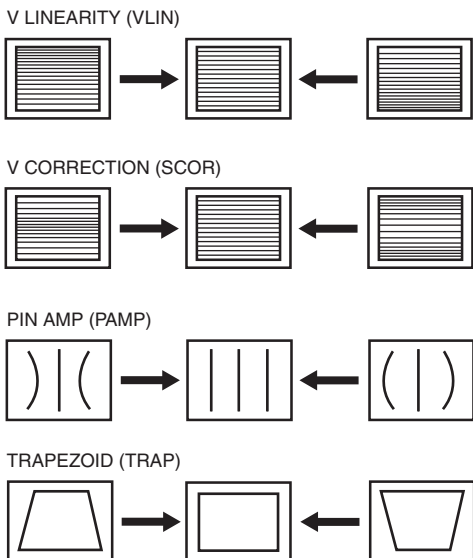
H. Size Adjustment (HSIZ)

1. Input a monoscope signal.
2. Access Service Adjustment Mode.
3. Press **2** or **5** to select the DEF category.
4. Press **1** or **4** to display the HSIZ item.
5. Adjust value of HSIZ by pressing **3** or **6** for the best horizontal size.
6. Press **MUTING** then **ENTER** to write into memory.



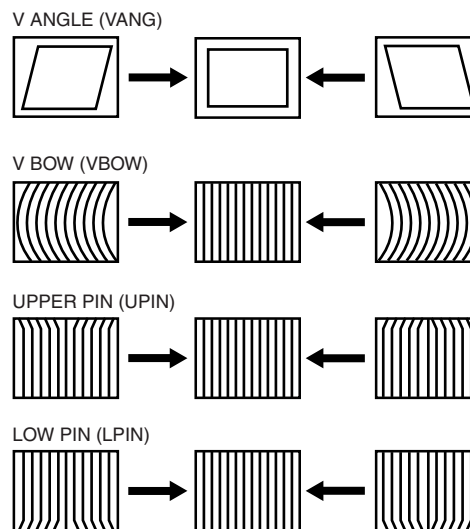
V. Linearity (VLIN), V. Correction (SCOR), PIN Amp (PAMP), and Trapezoid (TRAP) Adjustments

1. Input a crosshatch signal.
2. Access Service Adjustment Mode.
3. Press **2** or **5** to select the DEF category.
4. Press **1** or **4** to display the VLIN item.
5. Adjust the value of VLIN by pressing **3** or **6** for the best horizontal size.
6. Repeat steps 4 and 5 for SCOR, PAMP, and TRAP.
7. Press **MUTING** then **ENTER** to write into memory.



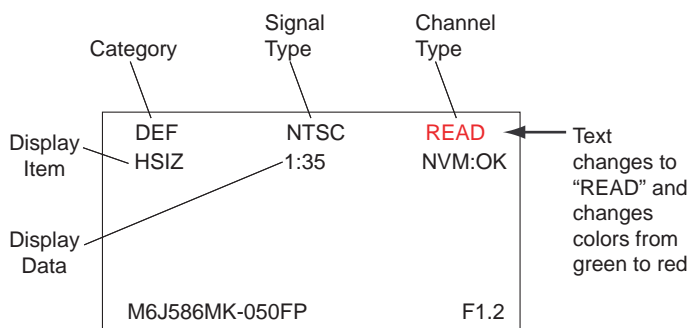
V. Angle (VANG), V. Bow (VBOW), Upper PIN (UPIN) and Low PIN (LPIN) Adjustments

1. Input a crosshatch signal.
2. Access Service Adjustment Mode.
3. Press **2** or **5** to select the DEF category.
4. Press **1** or **4** to display the VANG item.
5. Adjust the value of VANG by pressing **3** or **6** for the best picture.
6. Repeat steps 4 and 5 for VBOW, UPIN, and LPIN.
7. Press **MUTING** then **ENTER** to write into memory.



Reading Adjustments to Memory

1. After completing all adjustments, **0** then **ENTER** to read into memory.



4-6. SERVICE DATA LISTS

Device "DEF"				Revision 5.3							
Item#	OSD	DETAIL	note	Initial Data 32" (DFC)				Initial Data 36" (DFC)			
Var 1	HSIZ	H SIZE(EW DC)	RF / AV / YUV / DTV	30	30	31	32	36	37	37	37
Var 2	HPOS	H POSITION	RF / AV / YUV / DTV	06	10	07	09	17	18	17	17
Var 3	VSIZ	V RAMP SIZE	RF / AV / YUV / DTV	23	24	25	24	24	25	26	26
Var 4	VPOS	V POSITION(RAMP DC)	RF / AV / YUV / DTV	31	32	32	31	33	34	34	33
Var 5	VLIN	V LINEARITY				39				39	
Var 6	SCOR	S CORRECTION				48				48	
Var 7	VBOW	BOW				41				25	
Var 8	VANG	ANGLE				31				48	
Var 9	TRAP	EW TRAPESIUM				29				29	
Var 10	PAMP	EW PIN				31				36	
Var 11	UPIN	UPPER PIN				29				28	
Var 12	LPIN	LOWER PIN				29				27	
Var 13	TROT	TROT				109				109	
Var 14	HBLK	H BLK mode select				00				00	
Var 15	RBLK	HBLK rear timing	RF / AV / YUV / DTV	26	29	29	27	30	30	30	30
Var 16	LBLK	HBLK front timing	RF / AV / YUV / DTV	47	48	47	47	50	50	50	50
Var 17	VBK	V BLK width				03				03	
18	HMSK	TOP VEND(when MACROVISION)prevent OFF				00				00	
19	HDW	H PULSE WIDTH(25u 19u)				1				1	
20	AFC	AFC GAIN				00				00	
21	AFC1	AFC1 TIME CONSTANT	RF / AV / YUV / DTV	03	03	03	03	03	03	03	03
22	AFCW	AFC1 PULL IN WIDE				01				01	
23	CDMD	V DET WINDOW SW TIMING				01				01	
24	HSS	SYNC SLICE LEVEL(H sepa)				00				00	
25	VSS	SYNC SLICE LEVEL(V sepa)				03				03	
26	SLUD	Auto Slice level UP DOWN				00				00	
27	JPSW	Jump SW				00				00	
28	HOSC	H VCO fo offset ADJUST OFFSET				02				03	
29	EHT	EHT				04				04	
30	EHTG	EHT MODE				01				01	
31	SLOH	LPF SYNC H				01				01	
32	SLOV	LPF SYNC V				03				03	
33	SLOP	LPF SYNC				03				03	
34	SLVC	LPF SYNC VCOIN OFF				00				00	
35	SLHC	LPF SYNC HCOIN OFF				00				00	
36	VF50	VFREERUN 50Hz				00				00	
37	VSET	V FREQ SET 50/60 AUTO				00				00	

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Device "VP1"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
Var 1	RDRV	R DRIVE		84	84
Var 2	GDRV	G DRIVE when Color Temp. is "Cool" and "Neutral"	RF-AV / YUV / DTV	66 72 72	67 66 66
Var 3	BDRV	B DRIVE when Color Temp. is "Cool" and "Neutral"	RF-AV / YUV / DTV	66 66 66	59 60 60
Var 4	RCUT	Hardware AKB(R) CMP DATA		100	100
Var 5	GCUT	Hardware AKB(G) CMP DATA when Color Temp. is "Cool" and "Neutral"	RF-AV / YUV / DTV	71 66 66	71 70 70
Var 6	BCUT	Hardware AKB(B) CMP DATA when Color Temp. is "Cool" and "Neutral"	RF-AV / YUV / DTV	47 42 42	49 47 47
Var 7	SCON	SUB CONTRAST LEVEL		14	13
Var 8	SHUE	SUB TINT(HUE)	RF / AV / YUV / DTV	10 08 07 07	10 07 08 08
Var 9	SCOL	SUB COLOR LEVEL for Not NR	RF / AV / YUV / DTV	16 15 27 27	12 12 26 26
Var 10	SBRT	SUB BRIGHTNESS		13 17 17	15 16 16
Var 11	RON	R OUTPUT ON (0:R Output OFF 1:R Output ON)		01	01
Var 12	GON	G OUTPUT ON (0:G Output OFF 1:G Output ON)		01	01
Var 13	BON	B OUTPUT ON (0:B Output OFF 1:B Output ON)		01	01
14	BLLV	BLUE STRETCH(00:no <-> 11:deep) only Color Temp "Cool"		01	01
15	BLLM	BLUE STRETCH Y LEVEL LIMIT LEVEL		00	00
16	MTRX	MATRIX RATIO SELECT		01	01
17	AXIS	R-Y PHASE OFFSET		52	52
18	GYG	G-Y Gain		00	00
19	GYP	G-Y PHASE		00	00
20	SSHO	SUB SHARPNESS GAIN(OVER) RF VIDEO	RF / AV / YUV / DTV	12 14 02 02	12 14 02 02
21	SSHP	SUB SHARPNESS GAIN(PRE) RF VIDEO	RF / AV / YUV / DTV	16 19 13 13	16 19 13 13
22	SHPF	SHRPNES fo(00:2 CLK <-> 11:5 CLK)	RF / AV / YUV / DTV	0 1 0 0	0 1 0 0
23	SHCL	SHARPNESS CORING LEVEL		01	01
24	SHMX	SHARPNESS LIMITTER LEVEL		15	15
25	AKBD	AKB Self Diagnostic Counter(@1sec)		05	05
26	AKBS	AKB Switch (0 : AKB OFF 1 : H W AKB ON)		01	01
27	REFP	AKB REFPLS timing ("0"Fix when 16:9On)		00	00
28	YNRC	YNR LIMITER LEVEL		15	15
29	VYNR	VYNR LIMITER LEVEL		00	00
30	BKON	BLACK STRETCH ON		01	01
31	BKRC	BLACK STRETCH DETECTOR TIME CONSTANT1		252	252
32	BKDP	BLACK STRETCH START POINT		03 PALLETE 02 PALLETE	03 PALLETE 02 PALLETE
33	BKSP	BLACK STRETCH POINT		03 PALLETE 02 PALLETE	03 PALLETE 02 PALLETE
Var 34	UOFS	U IN OFFSET	RF / AV / YUV / DTV	32 32 77 77	32 32 105 105
Var 35	VOFS	V IN OFFSET	RF / AV / YUV / DTV	32 32 78 78	32 32 87 87
36	TAKE	BPF F0 UP	RF / AV / YUV	00 00 00	00 00 00
37	TAKW	BPF F0 UP WIDTH	RF / AV / YUV	00 00 00	00 00 00

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Device "VP2"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	VMOF	VM LEVEL at "Off" Setting		02	02
2	VMLO	VM LEVEL at "Low" Setting		05	05
3	VMHI	VM LEVEL at "High" Setting		11	11
4	VMDL	VM DELAY	RF / AV / YUV / DTV	11 11 7 7	11 11 7 7
5	V MPL	VM PORALITY		01	01
6	VMWD	VM WIDTH		00	00
7	VMCL	VM CORING LEVEL		00	00
8	VMMX	VM LIMITER LEVEL		15	15
9	CKLV	COLOR KILLER VTH		01	01
10	CKON	FORCE KILLER		00	00
11	VACL	V APERTURE CORING LEVEL		00	00
12	VAGA	V APERTURE GAIN LEVEL		▲ 07 PALLETE	▲ 07 PALLETE
13	VAMX	V APERTURE LIMITER LEVEL		15	15
14	GAMM	GAMMA(00:no <--> 11:deep)		▲ 01 PALLETE	▲ 02 PALLETE
15	YDLY	Y DELAY TIME		▲ 04 03	03
16	CDLY	C DELAY		02	02
17	BGPP	BGP(for C DECODER)TIMING		11	11
18	NRBP	NOISE DET BPF		00	00
19	NRLS	NOISE DET POS		00	00
20	NRDT	NOISE DET CORING LEVEL		00	00
21	GDOF	G DRIVE OFFSET only Color Temp. "Warm"		18	18
22	BDOF	B DRIVE OFFSET only Color Temp. "Warm"		31	31
23	GCOF	GCUT CMP DATA OFFSET only Color Temp. "Warm"		02	02
24	BCOF	BCUT CMP DATA OFFSET only Color Temp. "Warm"		04	04
25	DCTV	DCTTRANSFER VTH		03	03
26	DCTG	DCTTRANSFER GAIN		▲ 12 PALLETE	▲ 12 PALLETE

Device "Y C"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	ALFA	ADAPTIVE DET SENSITIVITY		01	01
2	YCMD	YC SEPA FORCE SELECT(00:ADAPTIVE 01:H 10:V 11:HV)		00	00

Device "NR"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	SCOL	SUB COLOR LEVEL for NR		07	07
2	SHCL	SHARPNESS NOISE CORING LEVEL for NR		15	15
3	SHMX	SHARPNESS LIMITER LEVEL for NR		07	07
4	YNRC	YNR LIMITER LEVEL for NR		7	7
5	VMHI	VM LEVEL at "High" Setting for NR		07	07
6	VMCL	VM CORING LEVEL for NR		00	00
7	VMMX	VM LIMITER LEVEL for NR		07	07
8	VAGA	V APERTURE GAIN LEVEL for NR		0	0
9	GAMM	GAMMA(00:no <--> 11:deep) for NR		0	0
10	YNRS	YNR ON for NR		1	1
11	WSTH	WEAK SIGNAL VTH for NR		7	7
12	WSVA	WEAK SIGNAL VIDEO ATT for NR		00	00
13	WSCA	WEAK SIGNAL CHROMA ATT for NR		05	05

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Device "PALLET" for "VIVID"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	VPIC	Picture(VIVID)		63	63
2	VBRI	Brightness(VIVID)		32	32
3	VCOL	Color(VIVID)		30	30
4	VHUE	Hue(VIVID)		31	31
5	VSHA	Sharpness(VIVID)		35	35
6	VVM	VM(VIVID)		02	02
7	VTRI	Color Temp(VIVID)		00	00
8	VAPA	Aperture G(VIVID)		07	07
9	VGMA	Gamma(VIVID)		02	02
10	VDCT	DCT LV(VIVID)		12	12
11	BKDP	BLACK STRETCH DEPTH(VIVID)		03	03
12	BKRC	BLACK ST TIME1 , BLACK ST TIME2(VIVID)		252	252
13	BKSP	BLACK STRETCH POINT(VIVID)		02	02
14	CONO	CONTRAST OFFSET for RF(VIVID)		0	00
15	COOF	Contrast Offset		00	00

Device "PALLET" for "STD"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	VPIC	Picture(STANDARD)		50	50
2	VBRI	Brightness(STANDARD)		31	31
3	VCOL	Color(STANDARD)		31	31
4	VHUE	Hue(STANDARD)		31	31
5	VSHA	Sharpness(STANDARD)		37	37
6	VVM	VM(STANDARD)		01	01
7	VTRI	Color Temp(STANDARD)		01	01
8	VAPA	Aperture G(STANDARD)		04	04
9	VGMA	Gamma(STANDARD)		01	01
10	VDCT	DCT LV(STANDARD)		09	09
11	BKDP	BLACK STRETCH DEPTH(STANDARD)		02	02
12	BKRC	BLACK ST TIME1 , BLACK ST TIME2(VIVID)		252	252
13	BKSP	BLACK STRETCH POINT(STANDARD)		01	01
14	CONO	CONTRAST OFFSET for RF(STANDARD)		00	00
15	COOF	Contrast Offset		00	00

Device "PALLET" for "MOVIE"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	VPIC	Picture(MOVIE)		37	37
2	VBRI	Brightness(MOVIE)		28	28
3	VCOL	Color(MOVIE)		31	31
4	VHUE	Hue(MOVIE)		31	31
5	VSHA	Sharpness(MOVIE)		34	34
6	VVM	VM(MOVIE)		01	01
7	VTRI	Color Temp(MOVIE)		02	02
8	VAPA	Aperture G(MOVIE)		03	03
9	VGMA	Gamma(MOVIE)		01	01
10	VDCT	DCT LV(MOVIE)		09	09
11	BKDP	BLACK STRETCH DEPTH(MOVIE)		01	01
12	BKRC	BLACK ST TIME1 , BLACK ST TIME2(VIVID)		252	252
13	BKSP	BLACK STRETCH POINT(MOVIE)		01	01
14	CONO	CONTRAST OFFSET for RF(MOVIE)		00	00
15	COOF	Contrast Offset		00	00

Device "PALLET" for "Pro"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	VPIC	Picture(Pro)		31	31
2	VBRI	Brightness(Pro)		31	31
3	VCOL	Color(Pro)		31	31
4	VHUE	Hue(Pro)		31	31
5	VSHA	Sharpness(Pro)		31	31
6	VVM	VM(Pro)		00	00
7	VTRI	Color Temp(Pro)		01	01
8	VAPA	Aperture G(Pro)		00	00
9	VGMA	Gamma(Pro)		00	00
10	VDCT	DCT LV(Pro)		02	02
11	BKDP	BLACK STRETCH DEPTH(Pro)		01	01
12	BKRC	BLACK ST TIME1 , BLACK ST TIME2(VIVID)		252	252
13	BKSP	BLACK STRETCH POINT(Pro)		0	0
14	CONO	CONTRAST OFFSET for RF(Pro)		00	00
15	COOF	Contrast Offset		00	00

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Device "ASIC"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	YNRS	YNR ON		0	0
2	CLPS	CLAMP CONTROL SW			
		0:CLAMP OFF		1	1
		1:CLAMP AUTO1 mode (usual procedure)			
		2:CLAMP ON mode			
3	VMG2	MODULATOR FEEDBACK GAIN CONTROL		1	1
4	CLPT	CLAMP AUTO ON KEEP TIMER COUNT (@100ms)		15	15
5	AASL	C DECODER TIME CONSTANT(32,16,8,1H)		2	2
6	BASL	ACC TIME CONSTANT		0	0
7	ACTH	ROM HYS		95	95
8	AVAV	AVE SEL AV		3	3
9	B2TH	B2COMP		0	0
10	CORL	R CUTOFF lower		0	0
11	CORH	R CUTOFF upper		1	1
12	COGL	G CUTOFF lower when Color Temp. is "Cool" and "Neutral"		0	0
13	COGH	G CUTOFF upper when Color Temp. is "Cool" and "Neutral"		1	1
14	COBL	B CUTOFF lower when Color Temp. is "Cool" and "Neutral"		0	0
15	COBH	B CUTOFF upper when Color Temp. is "Cool" and "Neutral"		1	1
16	ALSP	ACL SPEED		0	0
17	ALAS	ACL ATTACK SPEED		146	146
18	ABLG	ABL GAIN		4	4
19	AKBP	AKB PULSE HEIGHT		10	10
20	AALG	ANALOG ACL GAIN CONTROL		0	0
21	AALS	ANALOG ACL ON/OFF CONTROL		1	1
22	UVDT	UVIN DITHER TEST		12	12
23	YDT	Y DITHER LEVEL		0	0
24	HFBR	AFC1 FORCE FREERUN		0	0
25	HFUP	H FREERUN FREQUENCY UP(700Hz)		0	0
26	JSWW	Jump Pulse Width		0	0
27	XF0A	VCXO FREERUN ADJUST		0	0
28	BGST	BGP(for PLL) TIMING	RF-AV / YUV / DTV	16 06 06	16 06 06
29	XPHA	VCXO PHASE ADJUST		10	10
30	HRMP	AFC2 TIME CONSTANT		3	3

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31	RPLU	REF PLL TIME CONSTANT		3	3
32	RPLB	REF PLL TIME CONSTANT		1	1
33	XF0B	VCXO F ₀ ADJUST		0	0
34	RPLS	REF VCO FB LOOP SELECT		0	0
35	SSM	SyncSepaMasking CONTROL		0	0
36	VSAG	V-SAG prevent ON		0	0
37	AFC2	AFC2 GAIN CONTROL		1	1
38	XPLU	ACP TIME CONSTANT		00	00
39	XPLA	APC TIME CONSTANT BW SLOW		1	1
40	CDM2	V LOGIC SW		1	1
41	MHDL	BGP SEL		1	1
42	HRPP	FRAMP RRAMP H OUT CONTROL RANGE		02	02
43	D5CK	D5 DAC CLK SW for only Not YUV (YUV:"1"Fix)	4:3 / 16:9	00 00	00 00
44	VPW	V Pulse Wide		1	1
45	DTH	DITHER THRESHOLD LEVEL CONTROL at IIC AUTOD=ON		1	1
46	YOFF	Y OUTPUT MUTE		0	0
47	VSSW	SYNC SLICE LEVEL(V) Wide Window		0	0
48	AF2S	AFC2 timing SW		0	0
49	VSL2	Digital V SYNC LPF(fall)		1	1
50	VSL1	Digital V SYNC LPF(rise)		0	0
51	VSHE	V-SHRINK MODE for AV-NoSync		0	0
52	DSCS	CLOCK DIV SEL	RF-AV / YUV / DTV	00 01 01	00 01 01
53	14HI	4fsc(Skew)CLK POLARITY		01	01
54	14HD	4fscCLK(Skew)CLK DELAY ADJUST		00	00
55	DSI	8fscCLK POLARITY		01	01
56	DSD	8fscCLK DELAY ADJUST		00	00
57	ADCD	ADC CLK DELAY ADJUST		01	01
58	WSTH	WEAK SIGNAL VTH		00	00
59	WSVA	WEAK SIGNAL VIDEO ATT		00	00
60	WSCA	WEAK SIGNAL CHROMA ATT		00	00
61	VREF	AD REFERNCE SELECT(VZ)		00	00
62	DCCK	AD REFERNCE SELECT(VZ)	RF-AV / YUV / DTV	12 00 00	12 00 00
63	OSDC	OSD COMP		00	00
64	HLM1	H/W AKB LIM1		04	04
65	HLM2	H/W AKB LIM2		12	12
66	HLM3	H/W AKB LIM3		21	21
67	HAD1	H/W AKB SPEED1		02	02
68	HAD2	H/W AKB SPEED2		06	06
69	HAKA	H/W AKB MANUAL (MCU)/HARD		01	01
70	HASP	H/W AKB SPEED		03	03
71	HERL	H/W AKB ERROR DET THRESH		10	10
72	HLMC	H/W AKB ERROR DET TIME		15	15
73	HPWL	H/W AKB POWER ON TRESH		04	04
74	HPWC	H/W AKB POWER ON TIME		02	02
75	HFMT	POWER ON H/W AKB2 HOLD TIMER(@100msec) [0 : No Hold]		20	20
76	SPMT	AKB POWER ON MUTE EXIT TIMER(@100msec)		120	120
77	Y16M	YUV 16M		01	01
78	PCLP	Pedestal Clamp		00	00

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Device "Audio Processor"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	SBAL	Sub Balance		04	04
2	SBAS	Sub Bass		00	00
3	STRE	Sub Treble		00	00
4	SRL	Surround Level		00	00
5	BBOL	Surround Off-BBE Low		04	04
6	BBOH	Surround Off-BBE High		03	03
7	BBSL	Simulate BBE Low		04	04
8	BBSH	Simulate BBE High		03	03
9	BBGL	WOW Game BBE Low		00	00
10	BBGH	WOW Game BBE High		00	00
11	BRTL	SRS BBE Low		04	04
12	BBTH	SRS BBE High		03	03
13	VFIX	Audio output fix data		241	241
14	AGCL	AGC level		02	02
15	VCOF	VOLUME OFFSET for RF		00	00

Device "Microprocessor"

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	DISP	OSD horizontal position		88	88
2	MEDP	Menu display position		110	110
3	HRLW	Low limit of H-pulse counting window (RF)		16	16
4	HRHG	High limit of H-pulse counting window (RF)		64	64
5	HSDT	H-pulse Detection(S-Video)		08	08
6	STPI	Gradual CONTRAST Increase Starting level		40	40
7	RAPT	Gradual CONTRAST Increase Vsync counter		10	10
8	ZD60	Zero Cross Relay Delay (60Hz)		07	07
9	ZD50	Zero Cross Relay Delay (50Hz)		00	00
10	ABLT	ABL protection counter		03	03
11	OSLR	R OSD level		27	27
12	OSLG	G OSD level		27	27
13	OSLB	B OSD level		27	27

Device "Feature "

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	ID0	Language related		73	73
2	ID1	Video related		31	31
3	ID2	Audio related		31	31
4	ID3	Miscellaneous		32	32
5	ID4	Miscellaneous		136	136
6	ID5	Miscellaneous		16	16
7	ID6	Miscellaneous		0	0
8	ID7	Miscellaneous		33	33

Device O-BOX (OM)

Item#	OSD	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	INFO	Service Information Display <i>(For Engineering Use)</i>		0	0
2	PATN	Video Test Pattern Display <i>(For Engineering Use)</i>		0	0
3	GPTN	Graphics Test Pattern Display <i>(For Engineering Use)</i>		0	0
4	ADLY	Audio Delay <i>(For Model Specific Setting)</i>		0	0
5	DSMT	Disable Muting <i>(For Engineering Use)</i>		0	0
6	GDIM	GUI Dimming <i>(For Model Specific Setting)</i>		0	0
7	GRAY	Media Viewer Gray Background Intensity <i>(For Model Specific Setting)</i>		0	0
8	ALPH	Graphics Global Alpha Level <i>(For Model Specific Setting)</i>		230	230
9	GFXX	Graphics Origin X Offset <i>(For Model Specific Setting)</i>		92	92
10	GPHY	Graphics Origin Y Offset <i>(For Model Specific Setting)</i>		28	28
11	GBRT	Graphics Brightness <i>(For Model Specific Setting)</i>		44	44
12	GCON	Graphics Contrast <i>(For Model Specific Setting)</i>		33	33
13	DTUN	Cable Direct Tuning Enable <i>(For Engineering Use)</i>		2	2
14	YCSW	Swap Y/C on 656-601 digital video converter output <i>(For Engineering Use)</i>		0	0
15	PCWM	PC input wide Mode		0	0
16	PODS	Force POD Standby at Power Down <i>(For Engineering Use)</i>		0	0
17	WUSR	Write QM User Data to Memory Stick <i>(For production/service process)</i>		0	0
18	RUSR	Read QM User Data from Memory Stick <i>(For production/service process)</i>		0	0
19	UPIC	User Default Picture Level <i>(For engineering)</i>		V: 100	V: 100
20	UBRT	User Default Brightness Level <i>(For engineering)</i>		V: 50	V: 50
21	UCOL	User Default Color Level <i>(For engineering)</i>		V: 55	V: 55
22	UHUE	User Default Hue Level <i>(For engineering)</i>		V: 50	V: 50
23	USHP	User Default Sharpness Level <i>(For engineering)</i>		V: 40	V: 40
24	UTMP	User Default Color Temperature Level <i>(For engineering)</i>		V: 2	V: 2

Device O-BOX (OT)

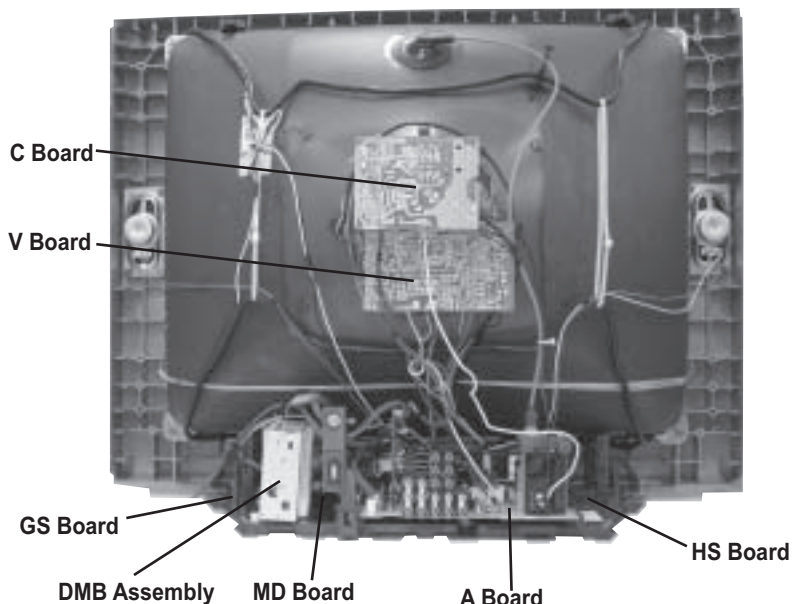
Item#	DETAIL	note	Initial Data 32" (DEC)	Initial Data 36" (DEC)
1	CVSB	Cable VSB Support <i>(For Model Specific Setting)</i>	1	1
2	WSC0	Cable Wide Scanning Channel Slot #0 <i>(For service)</i>	0	0
3	WSC1	Cable Wide Scanning Channel Slot #1 <i>(For service)</i>	0	0
4	WSC2	Cable Wide Scanning Channel Slot #2 <i>(For service)</i>	0	0
5	WSC3	Cable Wide Scanning Channel Slot #3 <i>(For service)</i>	0	0
6	WSC4	Cable Wide Scanning Channel Slot #4 <i>(For service)</i>	0	0
7	WSC5	Cable Wide Scanning Channel Slot #5 <i>(For service)</i>	0	0
8	WSC6	Cable Wide Scanning Channel Slot #6 <i>(For service)</i>	0	0
9	WSC7	Cable Wide Scanning Channel Slot #7 <i>(For service)</i>	0	0
10	WSC8	Cable Wide Scanning Channel Slot #8 <i>(For service)</i>	0	0
11	WSC9	Cable Wide Scanning Channel Slot #9 <i>(For service)</i>	0	0

4-7. ID MAP TABLE

Model	Dstination	ID 0	ID 1	ID 2	ID 3	ID 4	ID 5	ID 6	ID 7
		73	31	31	32	136	16	0	33
KD-32FS130	US	73	31	31	32	136	16	0	33
KD-36FS130		73	31	31	32	136	16	0	33

SECTION 5: DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



The components identified by shading and are critical for safety. Replace only with part number specified.

The symbol indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

(Actual measured value may be different).

: signal path. (RF)

Circled numbers are waveform references.

The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be necessary, replace only with the value originally used.

When replacing components identified by , make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved.

(Refer to Section 3: Safety Related Adjustments on Page 33.)

When replacing the parts listed in the table below, it is important to perform the related adjustments.

Part Replaced ()	Adjustment ()
C531, C532, D519, D520, D521, IC501, IC600, PH602, R529, R530, R531, R532, R533, R550, T503 (FBT), T504 (DFT)	HV HOLD-DOWN R530, R531

5-2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM INFORMATION

All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. $k=1000$, $M=1000k$

Indication of resistance, which does not have one for rating electrical power, is as follows: Pitch : 5mm Rating electrical power :

$1/4$ W in resistance, $1/10$ W and $1/8$ W in chip resistance.

: nonflammable resistor.

: fusible resistor.

: internal component.

: panel designation and adjustment for repair.

: earth ground

: earth-chassis

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a color-bar signal input.

Readings are taken with a 10M digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.

S : Measurement impossibility.

: B-line.

REFERENCE INFORMATION

RESISTOR

- : RN METAL FILM
- : RC SOLID
- : FPRD NONFLAMMABLE CARBON
- : FUSE NONFLAMMABLE FUSIBLE
- : RW NONFLAMMABLE WIREWOUND
- : RS NONFLAMMABLE METAL OXIDE
- : RB NONFLAMMABLE CEMENT
- : ADJUSTMENT RESISTOR

CAPACITOR

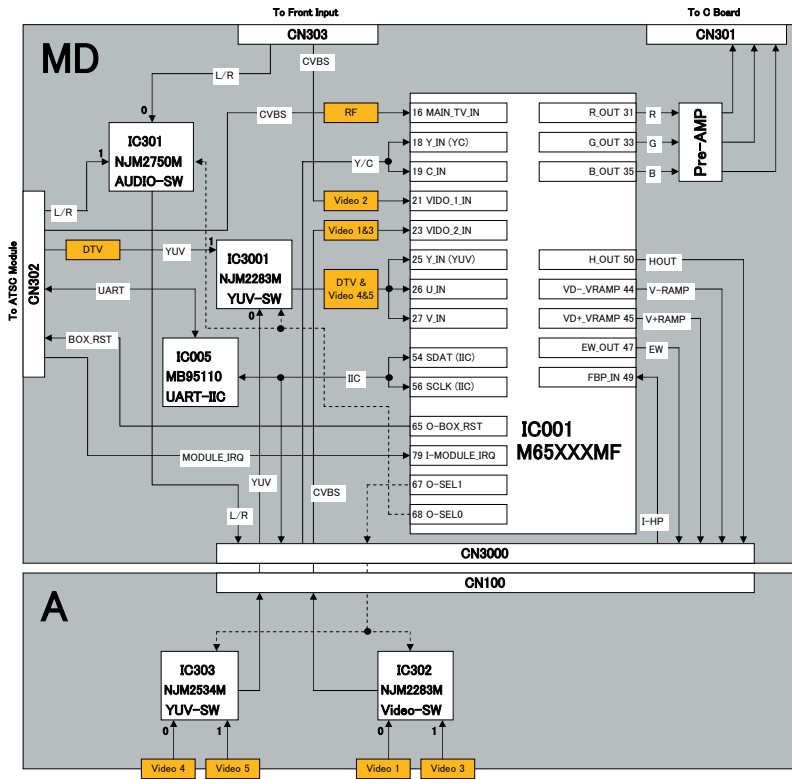
- : TA TANTALUM
- : PS STYROL
- : PP POLYPROPYLENE
- : PT MYLAR
- : MPS METALIZED POLYESTER
- : MPP METALIZED POLYPROPYLENE
- : ALB BIPOLAR
- : ALT HIGH TEMPERATURE
- : ALR HIGH RIPPLE

COIL

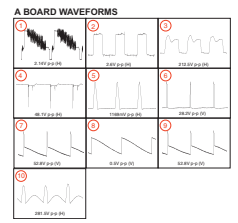
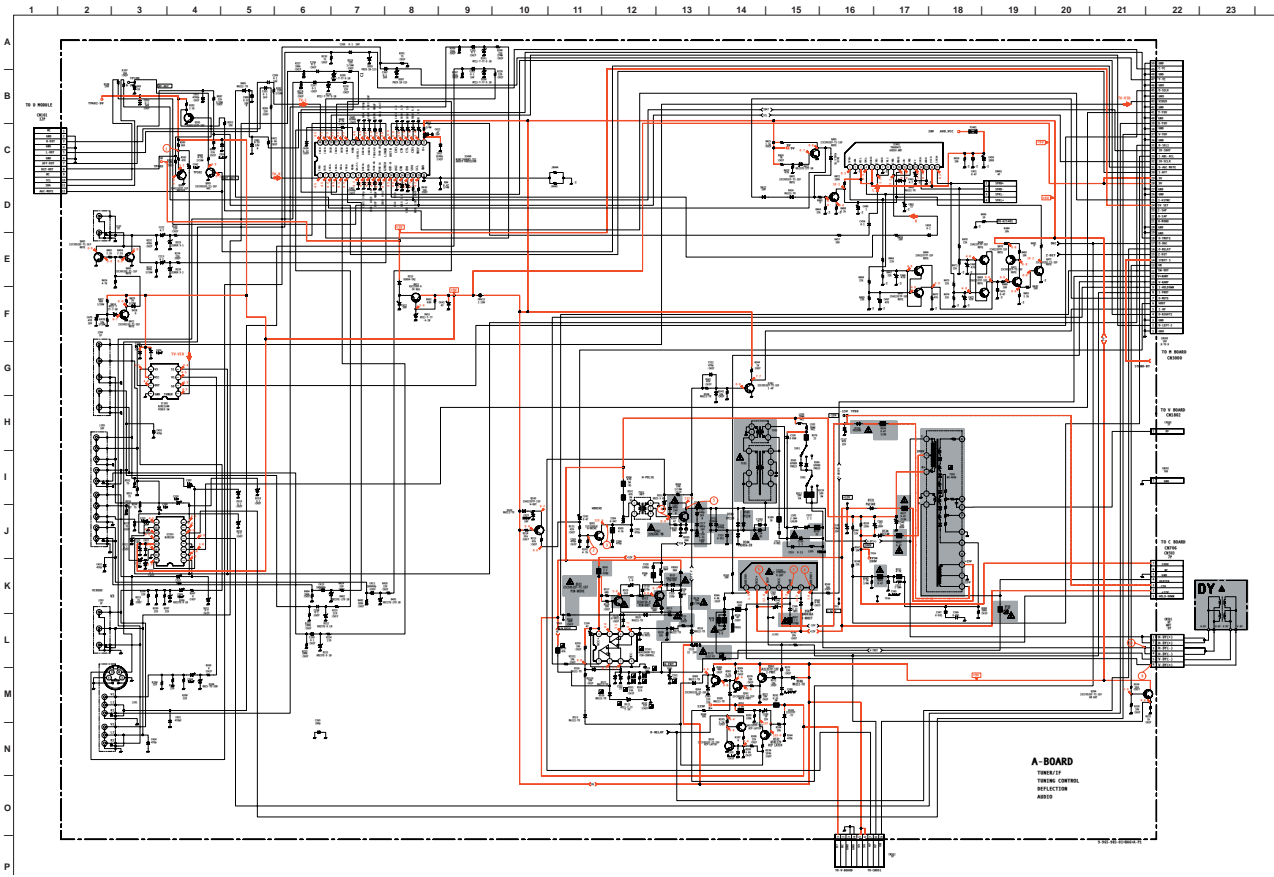
- : LF-8L MICRO INDUCTOR

5-3. BLOCK DIAGRAMS AND SCHEMATICS

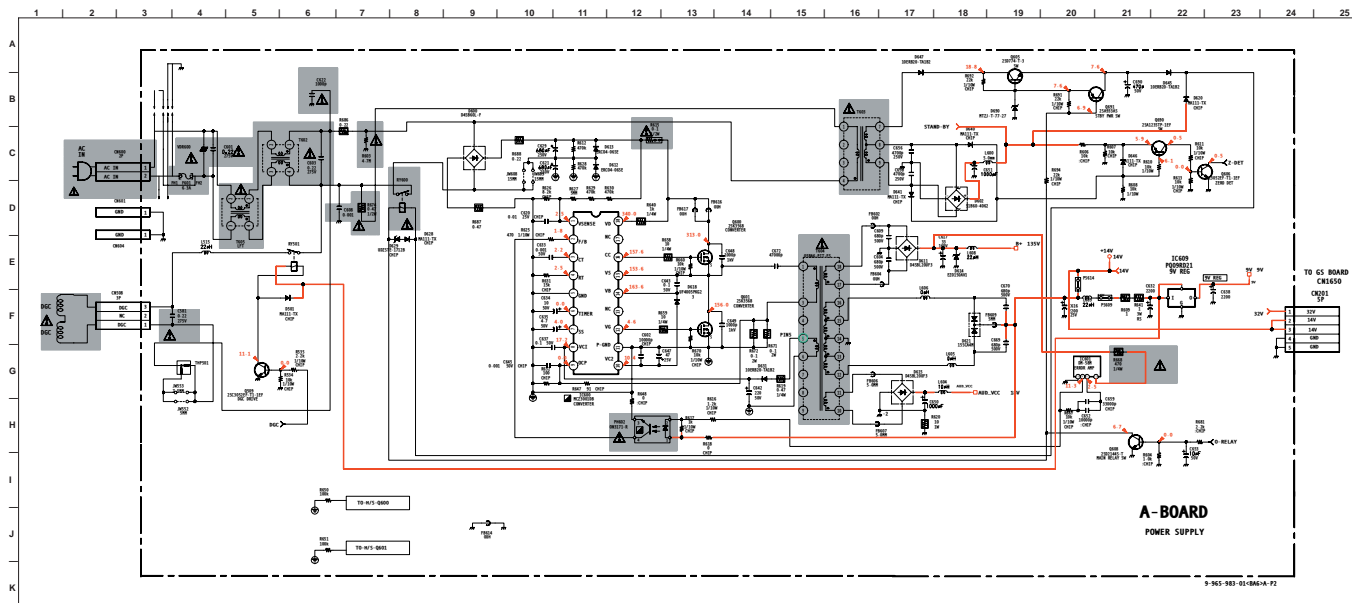
SIGNAL FLOW BLOCK DIAGRAM



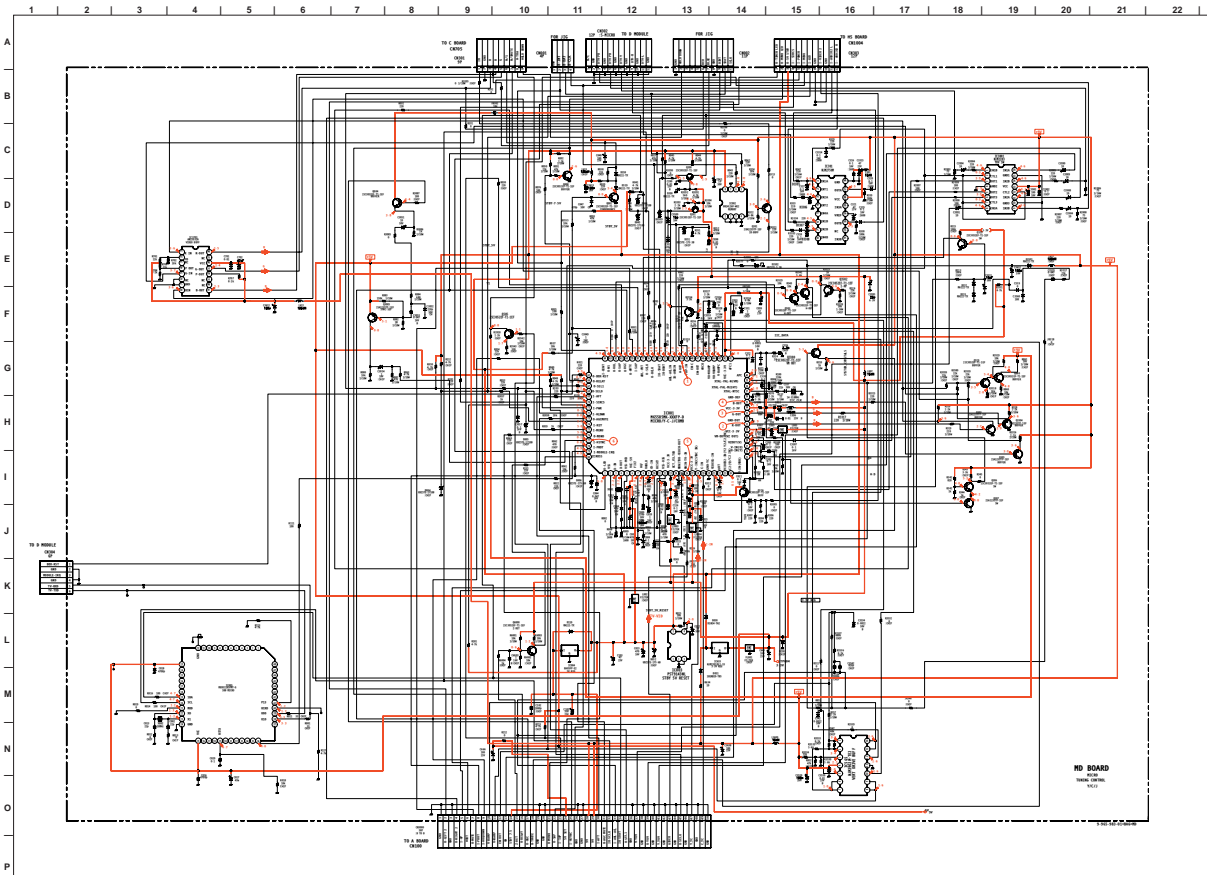
A BOARD SCHEMATIC DIAGRAM (1 OF 2)



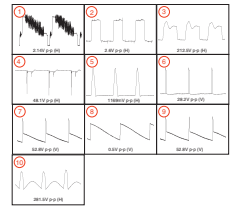
A BOARD SCHEMATIC DIAGRAM (2 OF 2)



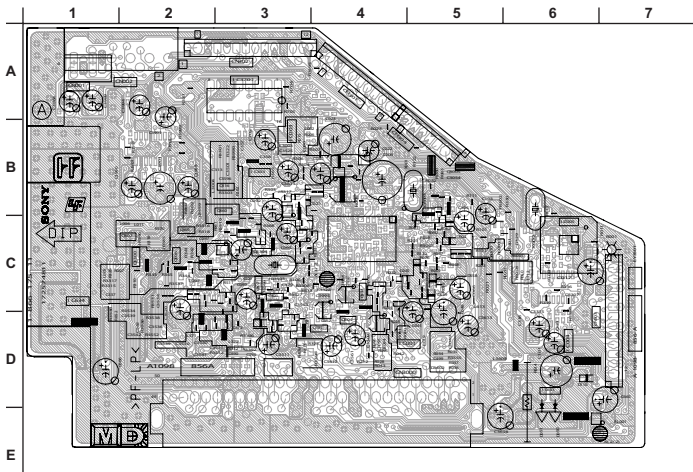
MD BOARD SCHEMATIC DIAGRAM



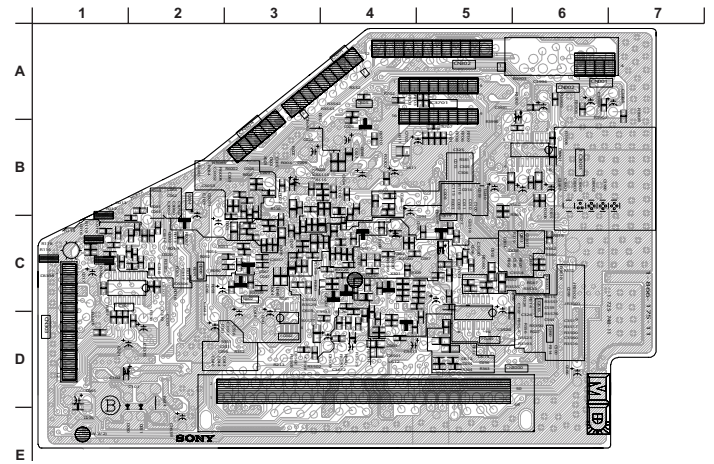
A BOARD WAVEFORMS



MD [MICRO, TUNING CONTROL, Y/C/J]
COMPONENT SIDE



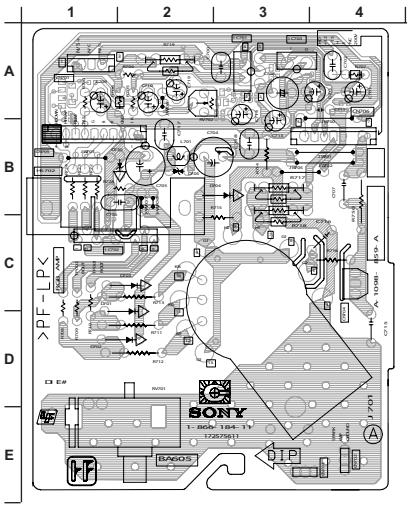
MD [MICRO, TUNING CONTROL, Y/C/J]
CONDUCTOR SIDE



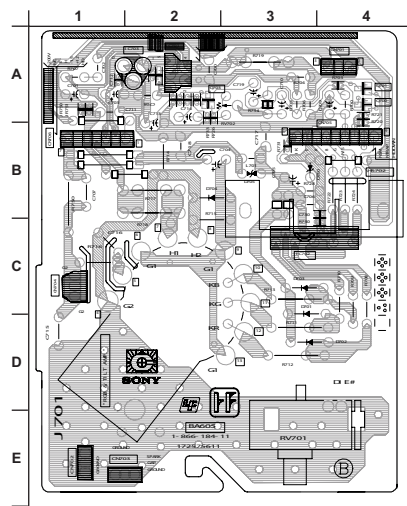
MD BOARD LOCATOR LIST

DIODE			IC			TRANSISTOR		
	COMP	COND		COMP	COND		COMP	COND
D002		B-3	IC001	C-4		Q002		C-3
D004	C-5		IC002	B-3	D-3	Q004		B-2
D005		C-3	IC003	B-3		Q008		C-2
D006		C-3	IC004	D-6		Q017		
D044		C-3	IC005	C-6		Q301	C-3	
D045		C-3	IC301		C-1	Q303		C-6
D050		E-2	IC565		D-5	Q305	C-2	
D051		E-2	IC633		D-6	Q306	C-2	
D052		B-4	IC701		A-5	Q307	C-2	
D110	D-6		IC3001		B-6	Q316	B-3	
D250		E-1				Q390		D-6
D304		C-5				Q391	D-4	
D351		D-3				Q503		C-3
D390	D-3					Q504	D-4	
D512		D-5				Q505		A-4
D513		D-5				Q515		C-6
D558	C-5					Q519		C-5
D559	C-5					Q533	C-4	
D3305		C-2				Q850	B-3	
D3306		C-2				Q3005	B-5	
D3307	C-6					Q3300	C-2	
D3308		C-1				Q3304	C-3	
D3501		D-4				Q3502		C-4
D3502		D-3				Q6000	C-5	
D3509		D-4						

C [CRT DRIVE, RGB DRIVE]
COMPONENT SIDE

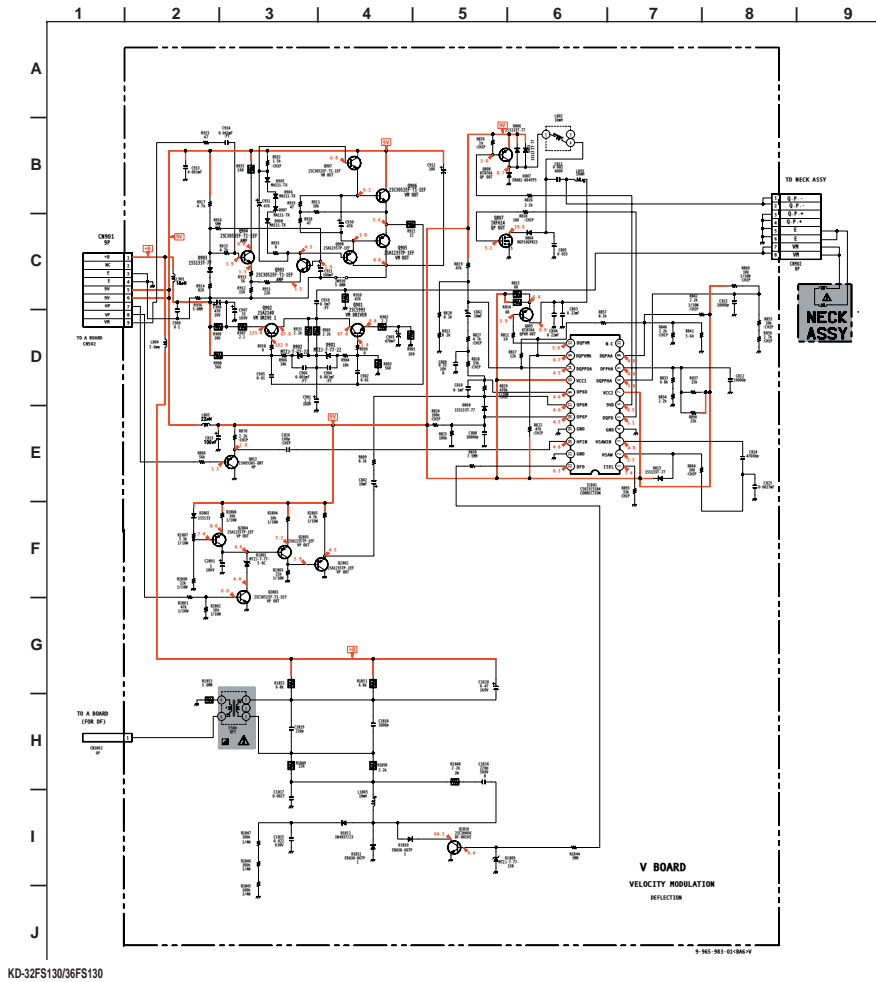


C [CRT DRIVE, RGB DRIVE]
CONDUCTOR SIDE



V BOARD SCHEMATIC DIAGRAM

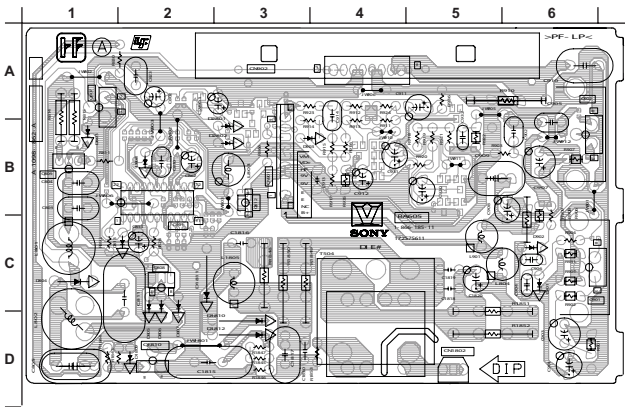
KD-32FS130/36FS130



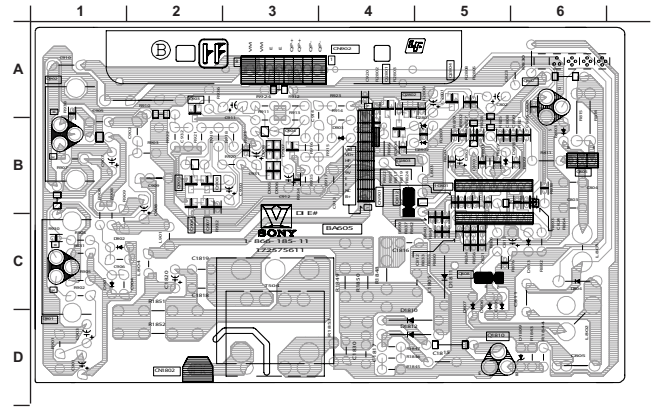
KD-32FS130/36FS130

57

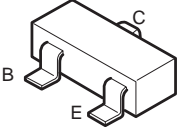
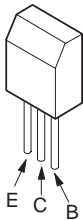
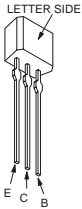
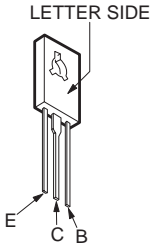
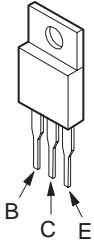
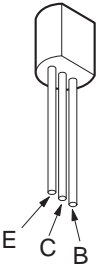
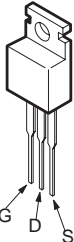
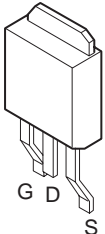
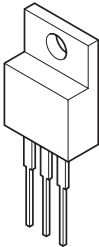
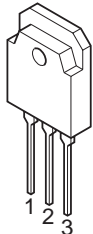
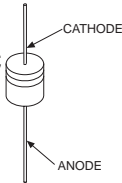
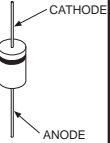
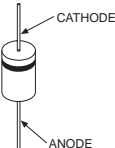
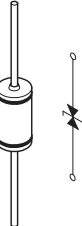
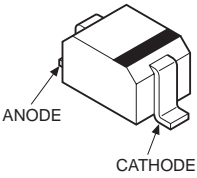
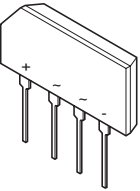
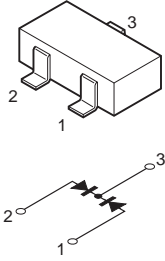
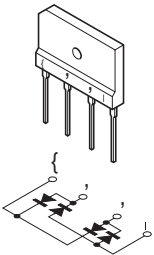
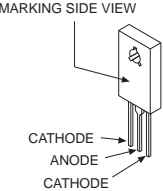
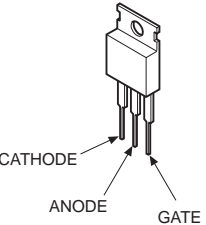
V [VELOCITY MODULATION, DEFLECTION]
COMPONENT SIDE



V [VELOCITY MODULATION, DEFLECTION]
CONDUCTOR SIDE



5-4. SEMICONDUCTORS

<p>2SB709A-QRS-TX 2SD601A-QRS-TX</p> 	<p>2SB734-T-34 2SC3209LK-TP</p> 	<p>2SA1309A-QRSTA 2SC3311A-QRSTA 2SD2144S-TP-UVV</p> 	<p>2SC3840K</p> 	<p>2SA1837</p> 
<p>2SA10910-TPE2</p> 	<p>IRF614</p> 	<p>2SK2663</p> 	<p>2SC4793</p> 	<p>2SD2578-YB</p> 
<p>ERA38-06TP1 ERA82-004TP5 1SS133T-77 D1NS0R-TA MTZJ-T-77-12C MTZJ-T-77-15B MTZJ-T-77-33B MTZJ-T-77-39</p> 	<p>RU-1P ERC06-15S EGP20DPKG23 MTZJ-T-77-5.1C MTZJ-T-77-5.6C MTZJ-T-77-7.5A MTZJ-T-77-10B MTZJ-T-77-30D RGP10-GPKG3 RGP02-17PKG23 RGP15GPKG23</p> 	<p>ERB44-06TP1 1SS83TD GP08DPKG23 RGP10GPKG23 RU4AM-T3</p> 	<p>RD9.1EW-T1</p> 	<p>MA111-TX UDZ-TE-17.5.1B UDZ-TE-17.91B</p> 
<p>D2SB60A-F04</p> 	<p>DAP202K-T-146</p> 	<p>D4SB60L-F</p> 		
<p>D5LC20U</p> 	<p>TF541M</p> 			

SECTION 6: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

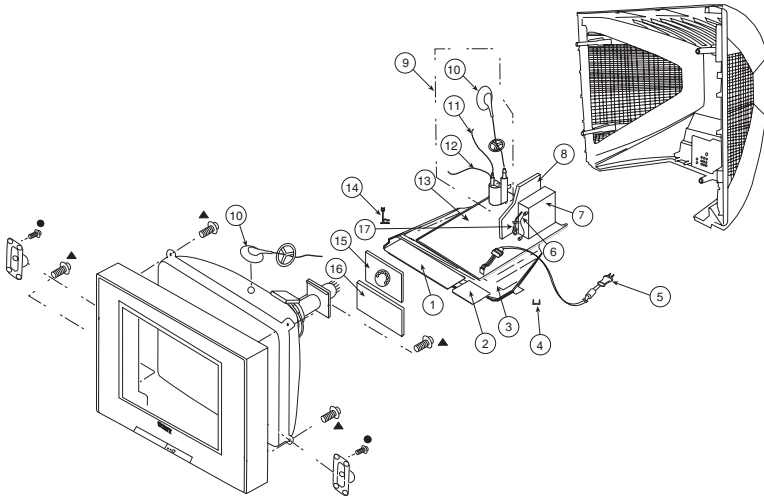
The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.

NOTE: The components identified by shading and Δ mark are critical for safety. Replace only with part number specified.

6-1. CHASSIS

- 4-388-477-01 SCREW(3X16),TAPPING.+BV WASHER
- ▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER

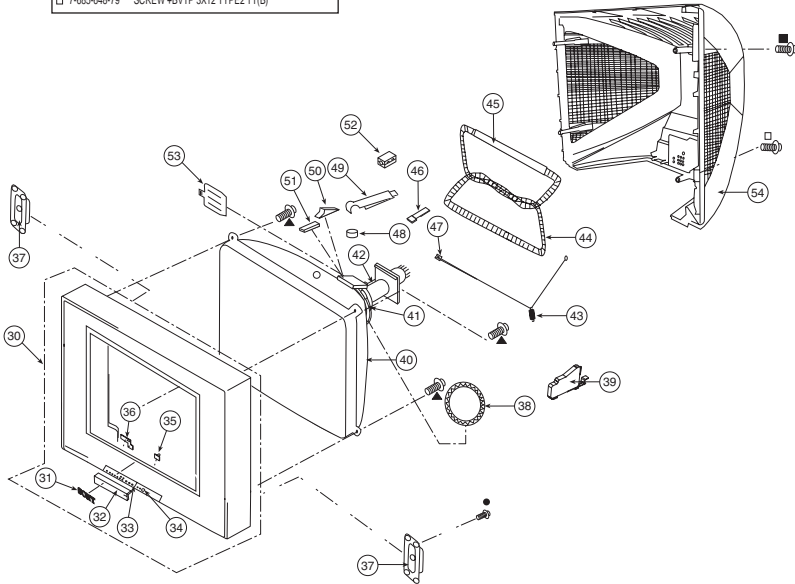


REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
1	A-1104-994-A	HS (VAR) BOARD, MOUNTED	Δ 9	1-453-338-41	FBT ASSY NX-4600/XXJ4	[10-12]
2	A-1098-866-A	GS (VAR) BOARD, MOUNTED	Δ 10	1-251-715-22	CAP ASSY, HIGH-VOLTAGE	
* 3	4-089-054-71	BOARD, BOTTOM	Δ 11	1-900-800-82	WIRE ASSY, FOCUS	
* 4	4-076-951-01	HINGE, PWB	Δ 12	1-900-803-22	WIRE ASSY, G2 LEAD	
Δ 5	1-830-659-11	CORD, POWER(WITH NOISE FILTER)				
* 6	1-830-656-11	USB CABLE	13	A-1098-838-A	A BOARD, COMPLETE	
7	A-1109-086-A	DMB COMPLETE ASSY	The high-voltage leads associated with the FBT on this A Board are not included and must be ordered separately.			
The DMB Complete Assembly contains the QM Board and the QT Board. These boards cannot be ordered separately.						
8	A-1098-857-A	MD (VAR) BOARD, MOUNTED (KD-32FS130 ONLY)	14	4-089-469-11	STANDOFF, HV (KD-36FS130 ONLY)	
8	A-1098-858-A	MD (VAR) BOARD, MOUNTED (KD-36FS130 ONLY)	15	A-1139-006-A	C (VAR) BOARD, MOUNTED	
			16	A-1098-864-A	V (VAR) BOARD, MOUNTED	
			* 17	1-830-657-11	P-F CABLE	

NOTE: The components identified by shading and Δ mark are critical for safety. Replace only with part number specified.

6-2. PICTURE TUBE

- 7-685-663-79 SCREW +BVTP 4X16 TYPE2 TT(B)
- ▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
- 4-388-477-02 SCREW (3X16), TAPPING, +BV
- 7-685-648-79 SCREW +BVTP 3X12 TYPE2 TT(B)



REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]	REF. NO.	PART NO.	DESCRIPTION
30	X-2055-068-1	BEZNET ASSY (KD-32FS130 ONLY)	[31-36]	Δ 44	1-428-888-31	DEGAUSSING COIL (31 INCH 120V) (KD-32FS130 ONLY)
30	X-2055-069-1	BEZNET ASSY (KD-36FS130 ONLY)	[31-36]	Δ 44	1-456-011-21	COIL, DEGAUSSING (KD-36FS130 ONLY)
31	4-046-160-31	EMBLEM, SONY NO.9		45	4-100-433-01	TUBE, DGC (A) (KD-32FS130 ONLY)
32	4-089-056-21	DOOR		45	4-088-344-01	TUBE, DGC (B) (KD-36FS130 ONLY)
33	4-089-016-01	LABEL, POWER		46	4-085-128-01	PIECE A (100), CONV. CORRECT (KD-32FS130 ONLY)
34	4-089-057-21	BUTTON, POWER		46	4-083-414-01	PIECE A (110), CONV. CORRECT (KD-36FS130 ONLY)
35	4-089-058-11	GUIDE, LED		47	4-082-640-01	HOOK, GROUND WIRE
36	4-083-303-01	SPRING, METAL		48	1-452-885-11	MAGNET, LANDING
37	1-825-206-12	LOUDSPEAKER (6X12CM)		49	4-065-895-14	HOLDER, DGC (KD-32FS130 ONLY)
Δ 38	1-452-896-11	COIL, NA ROTATION (RT-200) (KD-32FS130 ONLY)		49	4-065-895-07	HOLDER, DGC (KD-36FS130 ONLY)
Δ 38	1-452-896-61	COIL, NA ROTATION (RT-200) (KD-36FS130 ONLY)		50	4-053-005-01	SPACER, DY (KD-32FS130 ONLY)
39	4-089-063-03	SUPPORTER, CRT (KD-32FS130 ONLY)		51	2-108-702-01	CUSHION, DY (10 X 25) (KD-36FS130 ONLY)
39	4-089-064-03	SUPPORTER, CRT (KD-36FS130 ONLY)		52	1-500-082-11	CLAMP, SLEEVE FERRITE
Δ 40	8-735-066-05	CRT 34RSN(SDP) A80LPD50X (KD-32FS130 ONLY)		53	4-081-170-01	PLATE, TLH CORRECTION (KD-32FS130 ONLY)
Δ 40	8-735-048-05	CRT 38RSN A90LPW80X (KD-36FS130 ONLY)		53	2-163-920-01	PLATE, TLH CORRECTION (KD-36FS130 ONLY)
Δ 41	8-451-499-41	DY Y34RSA-V (KD-32FS130 ONLY)		54	4-089-051-61	COVER, REAR (KD-32FS130 ONLY)
Δ 41	8-451-506-22	DY Y38RSA-V (KD-36FS130 ONLY)		54	4-089-052-51	COVER, REAR (KD-36FS130 ONLY)
Δ 42	8-453-007-41	NECK ASSEMBLY NA324-M4 (KD-36FS130 ONLY)				
43	4-082-641-01	SPRING, 45MM				

SECTION 7: ELECTRICAL PARTS LIST

NOTE: The components identified by shading and mark are critical for safety. Replace only with part number specified.

The components in this manual identified by the following symbol: indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation for each set.



- RESISTORS**
- All resistors are in ohms
 - F : nonflammable
 - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.


* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.
















Should replacement be required for one of these components, replace only with the value originally used.

When ordering parts by reference number, please include the board name.


REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
A				C310	1-126-964-11	ELECT	10µF 20% 50V
A-1098-838-A A BOARD, COMPLETE				C312	1-126-964-11	ELECT	10µF 20% 50V
*	4-374-846-11	COVER, CAPACITOR, CAP TYPE		C314	1-126-964-11	ELECT	10µF 20% 50V
	4-382-854-11	SCREW (M3X10), P, SW (+)		C315	1-126-964-11	ELECT	10µF 20% 50V
The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. Order the following leads when requesting this A Board:				C362	1-126-964-11	ELECT	10µF 20% 50V
	1-900-800-82	WIRE ASSY, FOCUS		C365	1-162-117-00	CERAMIC	100pF 10% 500V
	1-900-805-22	CONNECTOR ASSY, G2 HV		C366	1-126-964-11	ELECT	10µF 20% 50V
CAPACITOR				C367	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C049	1-126-964-11	ELECT	10µF 20% 50V	C368	1-126-964-11	ELECT	10µF 20% 50V
C052	1-162-968-11	CERAMIC CHIP	0.0047µF 10% 50V	C373	1-126-947-11	ELECT	47µF 20% 35V
C053	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C374	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C056	1-135-834-91	CERAMIC CHIP	2.2µF 6.3V	C400	1-128-934-91	CERAMIC CHIP	0.33µF 20% 10V
C057	1-135-834-91	CERAMIC CHIP	2.2µF 6.3V	C401	1-164-227-11	CERAMIC CHIP	0.022µF 10% 25V
C080	1-128-934-91	CERAMIC CHIP	0.33µF 20% 10V	C402	1-164-174-11	CERAMIC CHIP	0.0082µF 10% 25V
C081	1-128-934-91	CERAMIC CHIP	0.33µF 20% 10V	C403	1-162-967-11	CERAMIC CHIP	0.0033µF 10% 50V
C200	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C404	1-162-967-11	CERAMIC CHIP	0.0033µF 10% 50V
C201	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C405	1-164-677-11	CERAMIC CHIP	0.033µF 10% 16V
C202	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C406	1-164-677-11	CERAMIC CHIP	0.033µF 10% 16V
C203	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C407	1-115-412-11	CERAMIC CHIP	680pF 5% 25V
C206	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C408	1-115-412-11	CERAMIC CHIP	680pF 5% 25V
C207	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C409	1-125-891-11	CERAMIC CHIP	0.47µF 10% 10V
C208	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C410	1-125-891-11	CERAMIC CHIP	0.47µF 10% 10V
C209	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C411	1-128-934-91	CERAMIC CHIP	0.33µF 20% 10V
C212	1-126-963-11	ELECT	4.7µF 20% 50V	C412	1-126-961-11	ELECT	2.2µF 20% 50V
C213	1-126-963-11	ELECT	4.7µF 20% 50V	C413	1-126-960-11	ELECT	1µF 20% 50V
C307	1-126-964-11	ELECT	10µF 20% 50V	C414	1-126-960-11	ELECT	1µF 20% 50V
C308	1-126-964-11	ELECT	10µF 20% 50V	C415	1-126-960-11	ELECT	1µF 20% 50V
C309	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V	C416	1-126-960-11	ELECT	1µF 20% 50V
				C417	1-115-416-11	CERAMIC CHIP	0.001µF 5% 25V
				C418	1-126-963-11	ELECT	4.7µF 20% 50V
				C420	1-126-960-11	ELECT	1µF 20% 50V
				C421	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
				C422	1-126-947-11	ELECT	47µF 20% 35V
				C423	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
				C431	1-164-315-11	CERAMIC CHIP	470pF 5% 50V








NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
C432	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	C532	1-126-965-91	ELECT	22μF	20%	50V
C433	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	C534	1-126-967-11	ELECT	47μF	20%	50V
C434	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	C535	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C450	1-100-120-51	ELECT	1000μF	20%	35V	C537	1-126-941-11	ELECT	470μF	20%	25V
C451	1-137-194-81	FILM	0.47μF	5%	50V	C539	1-126-941-11	ELECT	470μF	20%	25V
C456	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C540	1-131-867-51	ELECT	100μF		160V
C458	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C541	1-128-560-11	ELECT	22μF	20%	100V
C461	1-126-965-91	ELECT	22μF	20%	50V	C545	1-106-387-00	MYLAR	0.068μF	10%	200V
C463	1-126-963-11	ELECT	4.7μF	20%	50V	C546	1-104-987-11	MYLAR	0.001μF	5%	200V
C466	1-126-935-11	ELECT	470μF	20%	16V	C547	1-104-987-11	MYLAR	0.001μF	5%	200V
C467	1-126-935-11	ELECT	470μF	20%	16V	 C553	1-117-661-11	FILM	0.15μF	5%	250V
C468	1-126-935-11	ELECT	470μF	20%	16V	 C554	1-117-635-11	FILM	4700pF	3%	1.2KV
C470	1-126-935-11	ELECT	470μF	20%	16V	C561	1-126-967-11	ELECT	47μF	20%	50V
C472	1-126-935-11	ELECT	470μF	20%	16V	C563	1-104-666-11	ELECT	220μF	20%	25V
C473	1-125-891-11	CERAMIC CHIP	0.47μF	10%	10V	C565	1-126-969-11	ELECT	220μF	20%	50V
C476	1-126-964-11	ELECT	10μF	20%	50V	C568	1-137-190-91	FILM	0.22μF	5%	50V
C480	1-126-960-11	ELECT	1μF	20%	50V	 C581	1-165-529-11	MYLAR	0.22μF	10	275V
C502	1-126-959-11	ELECT	0.47μF	20%	50V	C588	1-130-491-00	MYLAR	0.047μF	5%	50V
C503	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	C590	1-126-964-11	ELECT	10μF	20%	50V
C504	1-102-228-00	CERAMIC	470pF	10%	500V	 C601	1-165-529-11	MYLAR	0.22μF	10	275V
C505	1-102-228-00	CERAMIC	470pF	10%	500V	C602	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
C506	1-106-383-00	MYLAR	0.047μF	10%	200V	 C603	1-165-529-11	MYLAR	0.22μF	10	275V
 C507	1-162-116-00	CERAMIC	680pF	10%	2KV	C604	1-164-625-11	CERAMIC	680pF	10%	500V
 C509	1-162-116-00	CERAMIC	680pF	10%	2KV	 C608	1-119-912-51	CERAMIC	0.001μF	20%	125V
 C510	1-137-150-11	FILM	0.01μF	5%	100V	C609	1-164-625-11	CERAMIC	680pF	10%	500V
 C511	1-117-652-11	FILM	22000pF	3%	1.2KV	C612	1-104-665-11	ELECT	100μF	20%	25V
C512	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	C616	1-126-943-11	ELECT	2200μF	20%	25V
 C513	1-130-118-91	FILM	0.051μF	5%	400V	C617	1-123-024-21	ELECT	33μF		160V
 C514	1-115-521-11	FILM	0.82μF	5%	250V	C620	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
C515	1-104-987-11	MYLAR	0.001μF	5%	200V	C621	1-100-961-11	ELECT	680μF	20%	250V
 C516	1-115-356-11	FILM	1.2μF	5%	250V	 C622	1-119-912-51	CERAMIC	0.001μF	20%	125V
C517	1-107-649-11	ELECT	2.2μF	20%	250V	C629	1-100-961-11	ELECT	680μF	20%	250V
C518	1-106-387-00	MYLAR	0.068μF	10%	200V	C632	1-126-943-11	ELECT	2200μF	20%	25V
C519	1-102-244-00	CERAMIC	220pF	10%	500V	C633	1-136-479-11	FILM	0.001μF	5%	100V
C520	1-165-136-11	CERAMIC	3300pF	10%	500V	C634	1-126-964-11	ELECT	10μF	20%	50V
C522	1-126-960-11	ELECT	1μF	20%	50V	C635	1-126-963-11	ELECT	4.7μF	20%	50V
C523	1-126-934-11	ELECT	220μF	20%	16V	C637	1-136-165-00	FILM	0.1μF	5%	50V
C525	1-102-244-00	CERAMIC	220pF	10%	500V	C638	1-126-943-11	ELECT	2200μF	20%	25V
C526	1-107-662-11	ELECT	22μF	20%	350V	C642	1-126-969-11	ELECT	220μF	20%	50V
 C527	1-162-116-00	CERAMIC	680pF	10%	2KV	C643	1-136-165-00	FILM	0.1μF	5%	50V
C528	1-162-966-11	CERAMIC CHIP	0.0022μF	10%	50V	C645	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V
C529	1-104-662-91	ELECT	22μF	20%	25V	C647	1-126-947-11	ELECT	47μF	20%	35V
C530	1-164-690-91	CERAMIC CHIP	0.0022μF	5%	50V	C648	1-164-143-11	CERAMIC	0.001μF	10%	1KV
C531	1-126-965-91	ELECT	22μF	20%	50V	C649	1-164-143-11	CERAMIC	0.001μF	10%	1KV








NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
C650	1-100-120-51	ELECT	1000µF 20% 35V	D320	8-719-069-60	DIODE	UDZSTE-179.1B
C651	1-126-942-61	ELECT	1000µF 20% 25V	D321	8-719-069-60	DIODE	UDZSTE-179.1B
C652	1-162-970-11	CERAMIC CHIP	0.01µF 10% 25V	D322	8-719-069-60	DIODE	UDZSTE-179.1B
C653	1-126-964-11	ELECT	10µF 20% 50V	D323	8-719-069-60	DIODE	UDZSTE-179.1B
C656	1-161-964-91	CERAMIC	0.0047µF 250V	D400	8-719-404-50	DIODE	MA111-TX
C658	1-161-964-91	CERAMIC	0.0047µF 250V	D401	8-719-069-60	DIODE	UDZSTE-179.1B
C659	1-164-677-11	CERAMIC CHIP	0.033µF 10% 16V	D402	8-719-069-60	DIODE	UDZSTE-179.1B
C661	1-126-947-11	ELECT	47µF 20% 35V	D405	8-719-404-50	DIODE	MA111-TX
C669	1-164-625-11	CERAMIC	680pF 10% 500V	D414	8-719-921-63	DIODE	MTZJ-7.5B
C670	1-164-625-11	CERAMIC	680pF 10% 500V	D418	1-216-864-11	SHORT CHIP	
C672	1-165-953-11	FILM	47000pF 3% 800V	D422	1-216-809-11	METAL CHIP	100 5% 1/10W
C690	1-126-971-11	ELECT	470µF 20% 50V	D423	8-719-404-50	DIODE	MA111-TX
C1501	1-107-846-11	FILM	0.1µF 5% 400V	D424	8-719-404-50	DIODE	MA111-TX
CONNECTOR				D425	8-719-056-84	DIODE	UDZ-TE-17-7.5B
*	CN101	1-818-747-11	PIN, CONNECTOR 12P	D500	8-719-081-00	DIODE	BY228/A52A/
	CN202	1-695-915-11	TAB (CONTACT)	D501	8-719-404-50	DIODE	MA111-TX
*	CN401	1-564-507-11	PLUG, CONNECTOR 4P	 D503	8-719-081-00	DIODE	BY228/A52A/
*	CN501	1-580-798-11	CONNECTOR PIN (DY) 6P	D504	6-500-485-01	DIODE	FR305G-EB
*	CN503	1-564-510-11	PLUG, CONNECTOR 7P	D505	8-719-908-03	DIODE	GP08D
	CN505	1-785-879-11	CONNECTOR, ONE TOUCH	D506	8-719-908-03	DIODE	GP08D
*	CN508	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P	D508	8-719-404-50	DIODE	MA111-TX
	CN600	1-580-843-11	PIN, CONNECTOR (POWER)	D509	8-719-404-50	DIODE	MA111-TX
	CN601	1-695-915-11	TAB (CONTACT)	 D515	8-719-075-41	DIODE	PR1004GT
	CN604	1-695-915-11	TAB (CONTACT)	D516	8-719-404-50	DIODE	MA111-TX
				D518	8-719-404-50	DIODE	MA111-TX
				 D519	8-719-302-43	DIODE	EL1Z
				D520	8-719-404-50	DIODE	MA111-TX
				D521	8-719-921-63	DIODE	MTZJ-7.5B
				D522	8-719-404-50	DIODE	MA111-TX
				D525	8-719-404-50	DIODE	MA111-TX
				D526	8-719-404-50	DIODE	MA111-TX
				 D530	6-500-531-01	DIODE	PG154R
				D531	6-500-531-01	DIODE	PG154R
				D534	8-719-074-25	DIODE	PG104R
				D535	8-719-404-50	DIODE	MA111-TX
				D551	8-719-069-55	DIODE	UDZSTE-175.6B
				D561	8-719-075-33	DIODE	1N4003GA
				D580	8-719-991-33	DIODE	1SS133T-77
				D588	8-719-404-50	DIODE	MA111-TX
				D589	8-719-404-50	DIODE	MA111-TX
				D590	8-719-404-50	DIODE	MA111-TX
				D600	8-719-510-53	DIODE	D4SB60L
				D602	8-719-064-12	DIODE	S1NB60-4062
				D611	8-719-062-40	DIODE	D4SBL20UF3








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REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
D612	8-719-068-00	DIODE	ERC04-06SE	IC401	6-705-054-01	IC	TDA8947J/N3
D613	8-719-068-00	DIODE	ERC04-06SE	IC501	8-759-700-07	IC	NJM2903M
D614	8-719-057-52	DIODE	EZ0150AV1	 IC561	8-759-696-71	IC	STV9379A
D615	8-719-062-40	DIODE	D4SBL20UF3	IC600	6-705-810-01	IC	MCZ3001DB
D618	8-719-979-64	DIODE	UF4005/23	IC601	8-749-017-76	IC	DM-58M
				IC609	8-759-653-07	IC	PQ09RD21J00H
D620	8-719-404-50	DIODE	MA111-TX	JACK			
D621	6-500-434-01	DIODE	D15SCA4M	* J201	1-818-351-11	S TERMINAL BLOCK	
D628	8-719-404-50	DIODE	MA111-TX	* J205	1-818-012-11	PIN JACK BLOCK	10P
D629	8-719-083-82	DIODE	UDZS-TE17-12B	J207	1-794-116-11	JACK BLOCK, PIN	2P
D631	6-500-567-01	DIODE	10ERB20-TA1B2	CHIP CONDUCTOR			
D640	8-719-404-50	DIODE	MA111-TX	JR1	1-216-864-11	SHORT CHIP	
D641	8-719-404-50	DIODE	MA111-TX	JR2	1-216-864-11	SHORT CHIP	
D645	6-500-567-01	DIODE	10ERB20-TA1B2	JR3	1-216-864-11	SHORT CHIP	
D646	8-719-404-50	DIODE	MA111-TX	JR4	1-216-864-11	SHORT CHIP	
D647	6-500-567-01	DIODE	10ERB20-TA1B2	JR9	1-216-864-11	SHORT CHIP	
D651	8-719-109-93	DIODE	RD6.2ESB2	JR10	1-216-864-11	SHORT CHIP	
D690	8-719-982-13	DIODE	MTZJ-27	JR16	1-216-864-11	SHORT CHIP	
FUSE				JR301	1-216-864-11	SHORT CHIP	
 F601	1-576-193-11	FUSE	6.3A 125V	JR410	1-216-864-11	SHORT CHIP	
FERRITE BEAD				JR411	1-216-864-11	SHORT CHIP	
FB501	1-412-911-11	FERRITE	0μH	JR444	1-216-864-11	SHORT CHIP	
FB502	1-412-911-11	FERRITE	0μH	JR445	1-216-864-11	SHORT CHIP	
FB503	1-412-911-11	FERRITE	0μH	JR501	1-216-864-11	SHORT CHIP	
FB505	1-412-911-11	FERRITE	0μH	JR502	1-216-864-11	SHORT CHIP	
FB602	1-412-911-11	FERRITE	0μH	COIL			
FB604	1-412-911-11	FERRITE	0μH	L501	1-406-677-11	INDUCTOR	10MH
FB613	1-410-397-21	FERRITE	1.1μH	L502	1-412-552-11	INDUCTOR	2.2MH
FB614	1-412-911-11	FERRITE	0μH	L503	1-406-677-11	INDUCTOR	10MH
FB616	1-412-911-11	FERRITE	0μH	 L505	1-406-978-11	INDUCTOR	150μH
FB617	1-412-911-11	FERRITE	0μH	L511	1-409-955-31	INDUCTOR	8MH
FUSE HOLDER				L515	1-412-529-11	INDUCTOR	22μH
 FH1	1-533-223-11	FUSE HOLDER	0A 0V	L517	1-412-552-11	INDUCTOR	2.2MH
 FH2	1-533-223-11	FUSE HOLDER	0A 0V	L604	1-412-525-31	INDUCTOR	10μH
IC				L605	1-412-911-11	FERRITE	0μH
IC302	8-759-353-00	IC	NJM2534M(TE2)	L606	1-412-911-11	FERRITE	0μH
IC303	8-759-443-11	IC	NJM2283M-TE1	L608	1-412-529-11	INDUCTOR	22μH
IC400	6-703-190-01	IC	NJW1134AGK1-TE2	L609	1-412-529-11	INDUCTOR	22μH














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REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
PHOTO COUPLER				Q608	8-729-922-37	TRANSISTOR	2SD2144S-UVW
	PH602	8-749-924-35	PHOTO COUPLER ON3171-R	Q611	6-550-409-01	TRANSISTOR	KSC2383-O
IC LINK				Q690	8-729-600-22	TRANSISTOR	2SA1235-F
PS401	1-576-337-21	IC LINK	2.7A 50V	Q691	8-729-026-39	TRANSISTOR	2SA933AS-QT
PS609	1-532-984-11	IC LINK	2A 50V	RESISTOR			
PS614	1-532-984-11	IC LINK	2A 50V	R84	1-249-377-11	CARBON	0.47 5% 1/4W
TRANSISTOR				R086	1-216-839-11	METAL CHIP	33K 5% 1/10W
Q005	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R087	1-216-837-11	METAL CHIP	22K 5% 1/10W
Q101	8-729-600-22	TRANSISTOR	2SA1235-F	R089	1-216-829-11	METAL CHIP	4.7K 5% 1/10W
Q300	8-729-600-22	TRANSISTOR	2SA1235-F	R101	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
Q304	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R102	1-216-809-11	METAL CHIP	100 5% 1/10W
Q401	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R107	1-216-809-11	METAL CHIP	100 5% 1/10W
Q402	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R108	1-216-809-11	METAL CHIP	100 5% 1/10W
Q403	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R202	1-216-813-11	METAL CHIP	220 5% 1/10W
Q405	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R206	1-216-813-11	METAL CHIP	220 5% 1/10W
Q412	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R207	1-216-845-11	METAL CHIP	100K 5% 1/10W
Q466	8-729-600-22	TRANSISTOR	2SA1235-F	R208	1-216-813-11	METAL CHIP	220 5% 1/10W
Q467	8-729-600-22	TRANSISTOR	2SA1235-F	R209	1-216-845-11	METAL CHIP	100K 5% 1/10W
Q468	8-729-600-22	TRANSISTOR	2SA1235-F	R210	1-216-813-11	METAL CHIP	220 5% 1/10W
Q469	8-729-600-22	TRANSISTOR	2SA1235-F	R217	1-216-845-11	METAL CHIP	100K 5% 1/10W
Q470	8-729-600-22	TRANSISTOR	2SA1235-F	R218	1-216-845-11	METAL CHIP	100K 5% 1/10W
Q471	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R219	1-216-813-11	METAL CHIP	220 5% 1/10W
Q472	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R220	1-216-813-11	METAL CHIP	220 5% 1/10W
Q501	8-729-140-50	TRANSISTOR	2SC3209LK	R222	1-216-845-11	METAL CHIP	100K 5% 1/10W
	Q502	6-550-107-01	TRANSISTOR 2SD2645-YB	R223	1-216-813-11	METAL CHIP	220 5% 1/10W
Q509	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R224	1-216-813-11	METAL CHIP	220 5% 1/10W
	Q511	8-729-120-28	TRANSISTOR 2SC1623-L5L6	R225	1-216-845-11	METAL CHIP	100K 5% 1/10W
	Q512	8-729-809-29	TRANSISTOR 2SC4159-E	R232	1-216-853-11	METAL CHIP	470K 5% 1/10W
Q530	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R233	1-216-853-11	METAL CHIP	470K 5% 1/10W
Q531	8-729-600-22	TRANSISTOR	2SA1235-F	R234	1-216-813-11	METAL CHIP	220 5% 1/10W
Q532	6-550-362-01	TRANSISTOR	KTA1279	R235	1-216-813-11	METAL CHIP	220 5% 1/10W
Q561	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R301	1-216-809-11	METAL CHIP	100 5% 1/10W
Q562	8-729-600-22	TRANSISTOR	2SA1235-F	R302	1-218-839-11	METAL CHIP	470 0.50% 1/10W
Q564	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R303	1-218-841-11	METAL CHIP	560 0.50% 1/10W
Q582	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R315	1-218-285-11	METAL CHIP	75 5% 1/10W
Q583	8-729-600-22	TRANSISTOR	2SA1235-F	R316	1-218-285-11	METAL CHIP	75 5% 1/10W
Q600	6-550-882-01	TRANSISTOR	2SK3568(LBS2SONY,Q	R317	1-218-285-11	METAL CHIP	75 5% 1/10W
Q601	6-550-882-01	TRANSISTOR	2SK3568(LBS2SONY,Q	R328	1-216-833-11	METAL CHIP	10K 5% 1/10W
Q605	8-729-140-96	TRANSISTOR	2SD774-34	R334	1-216-809-11	METAL CHIP	100 5% 1/10W
Q606	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R335	1-216-821-11	METAL CHIP	1K 5% 1/10W
				R359	1-216-833-11	METAL CHIP	10K 5% 1/10W
				R367	1-216-864-11	SHORT CHIP	


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A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.




REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R369	1-216-864-11	SHORT CHIP				R481	1-216-864-11	SHORT CHIP			
R390	1-216-813-11	METAL CHIP	220	5%	1/10W	R482	1-216-833-11	METAL CHIP	10K	5%	1/10W
R391	1-218-285-11	METAL CHIP	75	5%	1/10W	R483	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R393	1-218-285-11	METAL CHIP	75	5%	1/10W	R484	1-249-429-11	CARBON	10K	5%	1/4W
R394	1-216-813-11	METAL CHIP	220	5%	1/10W	R485	1-216-809-11	METAL CHIP	100	5%	1/10W
R395	1-216-813-11	METAL CHIP	220	5%	1/10W	R488	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R396	1-216-813-11	METAL CHIP	220	5%	1/10W	R500	1-216-813-11	METAL CHIP	220	5%	1/10W
R397	1-216-813-11	METAL CHIP	220	5%	1/10W	R502	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R398	1-216-813-11	METAL CHIP	220	5%	1/10W	R503	1-249-425-11	CARBON	4.7K	5%	1/4W
R400	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R504	1-215-915-21	METAL OXIDE	470	5%	3W
R401	1-216-809-11	METAL CHIP	100	5%	1/10W	R506	1-243-683-71	METAL OXIDE	47	5%	1W
R402	1-216-845-11	METAL CHIP	100K	5%	1/10W	R507	1-249-401-11	CARBON	47	5%	1/4W
R403	1-247-807-31	CARBON	100	5%	1/4W	R508	1-216-833-11	METAL CHIP	10K	5%	1/10W
R404	1-216-845-11	METAL CHIP	100K	5%	1/10W	R509	1-260-328-11	CARBON	1K	5%	1/2W
R405	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	 R510	1-215-908-00	METAL OXIDE	33	5%	3W
R406	1-249-393-11	CARBON	10	5%	1/4W	R512	1-243-531-71	METAL OXIDE	100	5%	3W
R408	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R513	1-216-841-11	METAL CHIP	47K	5%	1/10W
R410	1-216-813-11	METAL CHIP	220	5%	1/10W	R514	1-216-833-11	METAL CHIP	10K	5%	1/10W
R411	1-249-393-11	CARBON	10	5%	1/4W	R517	1-249-415-11	CARBON	680	5%	1/4W
R414	1-216-813-11	METAL CHIP	220	5%	1/10W	R518	1-216-833-11	METAL CHIP	10K	5%	1/10W
R416	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R519	1-249-411-11	CARBON	330	5%	1/4W
R422	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W	R520	1-243-531-71	METAL OXIDE	100	5%	3W
R424	1-216-821-11	METAL CHIP	1K	5%	1/10W	R521	1-216-817-11	METAL CHIP	470	5%	1/10W
R425	1-216-823-11	METAL CHIP	1.5K	5%	1/10W	 R523	1-218-873-11	METAL CHIP	12K	0.50%	1/10W
R429	1-216-841-11	METAL CHIP	47K	5%	1/10W	 R524	1-216-833-11	METAL CHIP	10K	5%	1/10W
R450	1-216-833-11	METAL CHIP	10K	5%	1/10W	 R525	1-218-869-11	METAL CHIP	8.2K	0.50%	1/10W
R457	1-216-809-11	METAL CHIP	100	5%	1/10W	 R528	1-218-879-11	METAL CHIP	22K	0.50%	1/10W
R458	1-216-809-11	METAL CHIP	100	5%	1/10W	R529	1-218-879-11	METAL CHIP	22K	0.50%	1/10W
R463	1-216-864-11	SHORT CHIP				 R530	1-218-873-11	METAL CHIP	12K	0.50%	1/10W
R464	1-216-837-11	METAL CHIP	22K	5%	1/10W	 R531	1-218-889-11	METAL CHIP	56K	0.50%	1/10W
R466	1-216-837-11	METAL CHIP	22K	5%	1/10W	R532	1-216-810-11	METAL CHIP	120	5%	1/10W
R467	1-216-837-11	METAL CHIP	22K	5%	1/10W	R533	1-215-879-11	METAL OXIDE	47K	5%	1W
R468	1-216-837-11	METAL CHIP	22K	5%	1/10W	R534	1-216-833-11	METAL CHIP	10K	5%	1/10W
R469	1-216-837-11	METAL CHIP	22K	5%	1/10W	R535	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R470	1-216-837-11	METAL CHIP	22K	5%	1/10W	 R536	1-260-288-11	CARBON	0.47	5%	1/2W
R471	1-216-837-11	METAL CHIP	22K	5%	1/10W	 R537	1-260-288-11	CARBON	0.47	5%	1/2W
R472	1-249-441-11	CARBON	100K	5%	1/4W	R538	1-247-887-00	CARBON	220K	5%	1/4W
R473	1-216-837-11	METAL CHIP	22K	5%	1/10W	R541	1-216-841-11	METAL CHIP	47K	5%	1/10W
R474	1-216-837-11	METAL CHIP	22K	5%	1/10W	R542	1-216-833-11	METAL CHIP	10K	5%	1/10W
R475	1-216-841-11	METAL CHIP	47K	5%	1/10W	 R543	1-249-377-11	CARBON	0.47	5%	1/4W
R477	1-216-819-11	METAL CHIP	680	5%	1/10W	R544	1-216-821-11	METAL CHIP	1K	5%	1/10W
R478	1-216-833-11	METAL CHIP	10K	5%	1/10W	 R545	1-249-387-11	CARBON	3.3	5%	1/4W
R479	1-216-821-11	METAL CHIP	1K	5%	1/10W	R546	1-215-447-00	METAL	12K	1%	1/4W
R480	1-216-809-11	METAL CHIP	100	5%	1/10W	R547	1-215-445-00	METAL	10K	1%	1/4W












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REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R548	1-215-453-00	METAL	22K	1%	1/4W	R613	1-216-833-11	METAL CHIP	10K	5%	1/10W
R549	1-215-429-00	METAL	2.2K	1%	1/4W	 R615	1-202-933-61	FUSIBLE	0.1	10%	1/2W
 R550	1-249-377-11	CARBON	0.47	5%	1/4W	R616	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R551	1-215-873-00	METAL OXIDE	4.7K	5%	1W	R617	1-216-821-11	METAL CHIP	1K	5%	1/10W
R552	1-215-915-21	METAL OXIDE	470	5%	3W	R618	1-216-864-11	SHORT CHIP			
 R553	1-249-377-11	CARBON	0.47	5%	1/4W	R619	1-249-377-11	CARBON	0.47	5%	1/4W
R559	1-216-805-11	METAL CHIP	47	5%	1/10W	R620	1-215-857-11	METAL OXIDE	10	5%	1W
R561	1-215-445-00	METAL	10K	1%	1/4W	R625	1-216-817-11	METAL CHIP	470	5%	1/10W
 R563	1-214-798-21	METAL	1.8	1%	1/2W	R626	1-218-869-11	METAL CHIP	8.2K	0.50%	1/10W
R564	1-247-895-91	CARBON	470K	5%	1/4W	R628	1-260-131-11	CARBON	470K	5%	1/2W
R565	1-215-889-00	METAL OXIDE	330	5%	2W	R629	1-245-478-21	METAL	470K	1%	1/4W
R566	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W	R630	1-245-478-21	METAL	470K	1%	1/4W
 R567	1-249-385-11	CARBON	2.2	5%	1/4W	R631	1-218-875-11	METAL CHIP	15K	0.50%	1/10W
R568	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W	R632	1-218-823-11	METAL CHIP	100	0.50%	1/10W
R569	1-218-871-11	METAL CHIP	10K	0.50%	1/10W	R640	1-249-417-11	CARBON	1K	5%	1/4W
R570	1-216-833-11	METAL CHIP	10K	5%	1/10W	R641	1-216-389-11	METAL OXIDE	1	5%	3W
R571	1-216-833-11	METAL CHIP	10K	5%	1/10W	R647	1-211-992-11	METAL CHIP	91	0.50%	1/10W
R572	1-216-833-11	METAL CHIP	10K	5%	1/10W	R648	1-216-864-11	SHORT CHIP			
R573	1-218-873-11	METAL CHIP	12K	0.50%	1/10W	R650	1-216-845-11	METAL CHIP	100K	5%	1/10W
 R574	1-214-798-21	METAL	1.8	1%	1/2W	R651	1-216-845-11	METAL CHIP	100K	5%	1/10W
R576	1-243-523-71	METAL OXIDE	22	5%	3W	R658	1-249-393-11	CARBON	10	5%	1/4W
R580	1-216-845-11	METAL CHIP	100K	5%	1/10W	R659	1-249-393-11	CARBON	10	5%	1/4W
R583	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R660	1-216-833-11	METAL CHIP	10K	5%	1/10W
R584	1-249-429-11	CARBON	10K	5%	1/4W	R661	1-249-415-11	CARBON	680	5%	1/4W
R586	1-216-843-11	METAL CHIP	68K	5%	1/10W	R667	1-216-833-11	METAL CHIP	10K	5%	1/10W
R589	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	 R668	1-249-413-11	CARBON	470	5%	1/4W
R590	1-216-833-11	METAL CHIP	10K	5%	1/10W	R670	1-216-833-11	METAL CHIP	10K	5%	1/10W
R592	1-243-803-71	METAL OXIDE	0.33	5%	1W	R671	1-243-979-71	METAL OXIDE	0.1	5%	2W
R593	1-249-420-11	CARBON	1.8K	5%	1/4W	R672	1-243-979-71	METAL OXIDE	0.1	5%	2W
R594	1-249-429-11	CARBON	10K	5%	1/4W	 R674	1-220-926-11	FUSIBLE	0.47	10%	1/2W
R595	1-247-891-00	CARBON	330K	5%	1/4W	R681	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R596	1-249-441-11	CARBON	100K	5%	1/4W	R686	1-240-303-31	CEMENTED	0.22	5%	10W
R597	1-216-864-11	SHORT CHIP				R687	1-220-797-11	CEMENTED	0.47	5%	10W
R598	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W	R688	1-240-303-31	CEMENTED	0.22	5%	10W
R599	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R691	1-216-837-11	METAL CHIP	22K	5%	1/10W
 R603	1-219-513-11	METAL	4.7M	5%	1/2W	R692	1-216-837-11	METAL CHIP	22K	5%	1/10W
R604	1-216-821-11	METAL CHIP	1K	5%	1/10W	R694	1-216-837-11	METAL CHIP	22K	5%	1/10W
R606	1-216-833-11	METAL CHIP	10K	5%	1/10W	R932	1-218-285-11	METAL CHIP	75	5%	1/10W
R607	1-216-833-11	METAL CHIP	10K	5%	1/10W	R934	1-218-285-11	METAL CHIP	75	5%	1/10W
R608	1-216-833-11	METAL CHIP	10K	5%	1/10W	R953	1-218-285-11	METAL CHIP	75	5%	1/10W
R609	1-216-389-11	METAL OXIDE	1	5%	3W	R1510	1-216-833-11	METAL CHIP	10K	5%	1/10W
R610	1-216-833-11	METAL CHIP	10K	5%	1/10W	R1511	1-216-833-11	METAL CHIP	10K	5%	1/10W
R611	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R612	1-260-131-11	CARBON	470K	5%	1/2W						



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REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
RELAY				C011	1-162-964-11	CERAMIC CHIP	0.001μF 10% 50V
	RY501	1-755-198-11	RELAY, AC POWER	C012	1-162-968-11	CERAMIC CHIP	0.0047μF 10% 50V
	RY600	1-755-395-11	RELAY (AC POWER)	C013	1-162-919-11	CERAMIC CHIP	22pF 5% 50V
SWITCH				C014	1-127-573-11	CERAMIC CHIP	1μF 10% 16V
	S501	1-572-707-11	SWITCH, LEVER	C015	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
	S502	1-572-707-11	SWITCH, LEVER	C016	1-162-968-11	CERAMIC CHIP	0.0047μF 10% 50V
TRANSFORMER				C017	1-126-967-11	ELECT	47μF 20% 50V
	T501	1-433-836-11	TRANSFORMER, HORIZONTAL DRIVE	C018	1-162-968-11	CERAMIC CHIP	0.0047μF 10% 50V
	T502	1-435-869-11	TRANSFORMER, FERRITE (PMT)	C019	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
	T503	1-453-338-41	FBT ASSY, NX-4600//X4J4	C020	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
	T505	1-435-098-21	TRANSFORMER, HORIZONTAL LINEAR	C021	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
	T602	1-443-402-11	TRANSFORMER, LINE FILTER	C022	1-126-964-11	ELECT	10μF 20% 50V
	T603	1-437-783-11	TRANSFORMER, STANDBY	C023	1-126-935-11	ELECT	470μF 20% 16V
	T604	1-443-776-11	CONVERTER TRANSFORMER	C033	1-162-970-11	CERAMIC CHIP	0.01μF 10% 25V
	T605	1-443-402-11	TRANSFORMER, LINE FILTER	C041	1-126-964-11	ELECT	10μF 20% 50V
THERMISTOR				C047	1-164-315-11	CERAMIC CHIP	470pF 5% 50V
	TH501	1-800-193-00	THERMISTOR	C048	1-104-665-11	ELECT	100μF 20% 25V
	THP501	1-803-970-11	THERMISTOR, POSITIVE	C064	1-165-176-11	CERAMIC CHIP	0.047μF 10% 16V
VARISTOR				C090	1-162-970-11	CERAMIC CHIP	0.01μF 10% 25V
	VDR600	1-810-974-21	VARISTOR	C091	1-126-947-11	ELECT	47μF 20% 35V
CAPACITOR				C092	1-126-947-11	ELECT	47μF 20% 35V
C002	1-162-919-11	CERAMIC CHIP	22pF 5% 50V	C094	1-162-970-11	CERAMIC CHIP	0.01μF 10% 25V
C003	1-162-919-11	CERAMIC CHIP	22pF 5% 50V	C095	1-126-947-11	ELECT	47μF 20% 35V
C004	1-162-923-11	CERAMIC CHIP	47pF 5% 50V	C096	1-162-970-11	CERAMIC CHIP	0.01μF 10% 25V
C005	1-162-966-11	CERAMIC CHIP	0.0022μF 10% 50V	C097	1-126-947-11	ELECT	47μF 20% 35V
C006	1-126-767-11	ELECT	1000μF 20% 16V	C098	1-162-970-11	CERAMIC CHIP	0.01μF 10% 25V
C007	1-164-315-11	CERAMIC CHIP	470pF 5% 50V	C099	1-126-947-11	ELECT	47μF 20% 35V
C008	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V	C100	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
C009	1-164-230-11	CERAMIC CHIP	220pF 5% 50V	C101	1-126-940-11	ELECT	330μF 20% 25V
C010	1-127-573-11	CERAMIC CHIP	1μF 10% 16V	C102	1-115-416-11	CERAMIC CHIP	0.001μF 5% 25V
				C103	1-126-947-11	ELECT	47μF 20% 35V
				C115	1-164-739-11	CERAMIC CHIP	560pF 5% 50V
				C116	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C304	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C305	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C306	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C313	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C316	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C317	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C318	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C319	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C320	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V
				C321	1-126-947-11	ELECT	47μF 20% 35V
				C322	1-107-826-11	CERAMIC CHIP	0.1μF 10% 16V

A-1098-857-A MD (VAR), BOARD, MOUNTED (KD-32FS130 ONLY)

A-1098-858-A MD (VAR), BOARD, MOUNTED (KD-36FS130 ONLY)







REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R021	1-216-813-11	METAL CHIP	220	5%	1/10W	R100	1-216-849-11	METAL CHIP	220K	5%	1/10W
R022	1-216-813-11	METAL CHIP	220	5%	1/10W	R101	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R027	1-218-887-11	METAL CHIP	47K	0.50%	1/10W	R110	1-216-813-11	METAL CHIP	220	5%	1/10W
R028	1-216-813-11	METAL CHIP	220	5%	1/10W	R111	1-216-809-11	METAL CHIP	100	5%	1/10W
R030	1-216-813-11	METAL CHIP	220	5%	1/10W	R112	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R031	1-216-813-11	METAL CHIP	220	5%	1/10W	R113	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R032	1-216-813-11	METAL CHIP	220	5%	1/10W	R115	1-216-817-11	METAL CHIP	470	5%	1/10W
R034	1-216-864-11	SHORT CHIP				R116	1-216-853-11	METAL CHIP	470K	5%	1/10W
R035	1-216-809-11	METAL CHIP	100	5%	1/10W	R117	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R037	1-216-833-11	METAL CHIP	10K	5%	1/10W	R131	1-216-813-11	METAL CHIP	220	5%	1/10W
R038	1-216-813-11	METAL CHIP	220	5%	1/10W	R201	1-216-813-11	METAL CHIP	220	5%	1/10W
R039	1-216-813-11	METAL CHIP	220	5%	1/10W	R203	1-216-813-11	METAL CHIP	220	5%	1/10W
R040	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R212	1-216-864-11	SHORT CHIP			
R041	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R213	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R042	1-216-813-11	METAL CHIP	220	5%	1/10W	R304	1-216-813-11	METAL CHIP	220	5%	1/10W
R043	1-216-813-11	METAL CHIP	220	5%	1/10W	R306	1-216-813-11	METAL CHIP	220	5%	1/10W
R044	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R307	1-216-813-11	METAL CHIP	220	5%	1/10W
R045	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R309	1-216-833-11	METAL CHIP	10K	5%	1/10W
R047	1-216-813-11	METAL CHIP	220	5%	1/10W	R310	1-216-821-11	METAL CHIP	1K	5%	1/10W
R048	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R311	1-216-813-11	METAL CHIP	220	5%	1/10W
R049	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R312	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R050	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R313	1-216-864-11	SHORT CHIP			
R053	1-216-837-11	METAL CHIP	22K	5%	1/10W	R314	1-216-833-11	METAL CHIP	10K	5%	1/10W
R054	1-216-837-11	METAL CHIP	22K	5%	1/10W	R318	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R059	1-216-821-11	METAL CHIP	1K	5%	1/10W	R319	1-216-813-11	METAL CHIP	220	5%	1/10W
R060	1-216-813-11	METAL CHIP	220	5%	1/10W	R320	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R061	1-216-833-11	METAL CHIP	10K	5%	1/10W	R322	1-216-864-11	SHORT CHIP			
R062	1-216-817-11	METAL CHIP	470	5%	1/10W	R324	1-216-821-11	METAL CHIP	1K	5%	1/10W
R063	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R326	1-400-427-21	FERRITE	0μH		
R070	1-216-813-11	METAL CHIP	220	5%	1/10W	R329	1-216-813-11	METAL CHIP	220	5%	1/10W
R076	1-216-809-11	METAL CHIP	100	5%	1/10W	R331	1-216-864-11	SHORT CHIP			
R080	1-216-833-11	METAL CHIP	10K	5%	1/10W	R332	1-216-864-11	SHORT CHIP			
R081	1-216-841-11	METAL CHIP	47K	5%	1/10W	R333	1-216-813-11	METAL CHIP	220	5%	1/10W
R082	1-216-857-11	METAL CHIP	1M	5%	1/10W	R337	1-216-801-11	METAL CHIP	22	5%	1/10W
R083	1-216-847-11	METAL CHIP	150K	5%	1/10W	R338	1-216-845-11	METAL CHIP	100K	5%	1/10W
R084	1-216-819-11	METAL CHIP	680	5%	1/10W	R339	1-216-845-11	METAL CHIP	100K	5%	1/10W
R090	1-216-837-11	METAL CHIP	22K	5%	1/10W	R341	1-218-845-11	METAL CHIP	820	0.50%	1/10W
R091	1-216-841-11	METAL CHIP	47K	5%	1/10W	R342	1-218-847-11	METAL CHIP	1K	0.50%	1/10W
R092	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R343	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R093	1-216-841-11	METAL CHIP	47K	5%	1/10W	R344	1-216-821-11	METAL CHIP	1K	5%	1/10W
R094	1-216-864-11	SHORT CHIP				R345	1-216-864-11	SHORT CHIP			
R095	1-216-864-11	SHORT CHIP				R347	1-216-813-11	METAL CHIP	220	5%	1/10W
R096	1-216-813-11	METAL CHIP	220	5%	1/10W	R351	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R097	1-216-813-11	METAL CHIP	220	5%	1/10W	R352	1-216-853-11	METAL CHIP	470K	5%	1/10W




REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R365	1-216-864-11	SHORT CHIP				R3394	1-216-833-11	METAL CHIP	10K	5%	1/10W
R370	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R3395	1-216-864-11	SHORT CHIP			
R371	1-216-849-11	METAL CHIP	220K	5%	1/10W	R3396	1-216-864-11	SHORT CHIP			
R372	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	R3502	1-216-833-11	METAL CHIP	10K	5%	1/10W
R382	1-216-863-11	METAL CHIP	3.3M	5%	1/10W	R3517	1-218-881-11	METAL CHIP	27K	0.50%	1/10W
R511	1-216-864-11	SHORT CHIP				R3518	1-216-833-11	METAL CHIP	10K	5%	1/10W
R513	1-216-845-11	METAL CHIP	100K	5%	1/10W	R3519	1-216-833-11	METAL CHIP	10K	5%	1/10W
R515	1-216-845-11	METAL CHIP	100K	5%	1/10W	R3524	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R526	1-216-837-11	METAL CHIP	22K	5%	1/10W	R3525	1-216-821-11	METAL CHIP	1K	5%	1/10W
R540	1-216-833-11	METAL CHIP	10K	5%	1/10W	R3527	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R547	1-218-891-11	METAL CHIP	68K	0.50%	1/10W	R3528	1-216-833-11	METAL CHIP	10K	5%	1/10W
R556	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R3529	1-216-833-11	METAL CHIP	10K	5%	1/10W
R557	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R3530	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R634	1-215-905-11	METAL OXIDE	10	5%	3W	R3532	1-216-864-11	SHORT CHIP			
R701	1-218-724-11	METAL CHIP	22K	0.50%	1/10W	R3533	1-218-869-11	METAL CHIP	8.2K	0.50%	1/10W
R702	1-218-716-11	METAL CHIP	10K	0.50%	1/10W	R3534	1-218-720-11	METAL CHIP	15K	0.50%	1/10W
R703	1-218-724-11	METAL CHIP	22K	0.50%	1/10W	R3535	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R704	1-218-714-11	METAL CHIP	8.2K	0.50%	1/10W	R3536	1-218-869-11	METAL CHIP	8.2K	0.50%	1/10W
R707	1-218-714-11	METAL CHIP	8.2K	0.50%	1/10W	R3537	1-216-855-11	METAL CHIP	680K	5%	1/10W
R851	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3539	1-216-864-11	SHORT CHIP			
R852	1-218-887-11	METAL CHIP	47K	0.50%	1/10W	R3541	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R860	1-216-833-11	METAL CHIP	10K	5%	1/10W	R3542	1-216-833-11	METAL CHIP	10K	5%	1/10W
R861	1-216-833-11	METAL CHIP	10K	5%	1/10W	R3543	1-216-815-11	METAL CHIP	330	5%	1/10W
R862	1-216-813-11	METAL CHIP	220	5%	1/10W	R3550	1-216-817-11	METAL CHIP	470	5%	1/10W
R900	1-216-851-11	METAL CHIP	330K	5%	1/10W	R3551	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R3057	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3553	1-216-864-11	SHORT CHIP			
R3058	1-216-833-11	METAL CHIP	10K	5%	1/10W	R3554	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R3085	1-216-864-11	SHORT CHIP				R3555	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3086	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3559	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3087	1-216-809-11	METAL CHIP	100	5%	1/10W	R3577	1-216-864-11	SHORT CHIP			
R3115	1-216-864-11	SHORT CHIP				R3580	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3303	1-216-863-11	METAL CHIP	3.3M	5%	1/10W	R3599	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3305	1-216-864-11	SHORT CHIP				R3903	1-218-285-11	METAL CHIP	75	5%	1/10W
R3308	1-216-809-11	METAL CHIP	100	5%	1/10W	R3904	1-216-813-11	METAL CHIP	220	5%	1/10W
R3315	1-216-813-11	METAL CHIP	220	5%	1/10W	R3905	1-216-813-11	METAL CHIP	220	5%	1/10W
R3316	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R3906	1-218-285-11	METAL CHIP	75	5%	1/10W
R3317	1-216-813-11	METAL CHIP	220	5%	1/10W	R3907	1-216-813-11	METAL CHIP	220	5%	1/10W
R3328	1-216-864-11	SHORT CHIP				R3908	1-218-285-11	METAL CHIP	75	5%	1/10W
R3334	1-216-813-11	METAL CHIP	220	5%	1/10W	R3910	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R3335	1-216-813-11	METAL CHIP	220	5%	1/10W	R3990	1-216-809-11	METAL CHIP	100	5%	1/10W
R3390	1-216-864-11	SHORT CHIP				R3997	1-216-809-11	METAL CHIP	100	5%	1/10W
R3391	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R3998	1-216-809-11	METAL CHIP	100	5%	1/10W
R3392	1-216-818-11	METAL CHIP	560	5%	1/10W	R3999	1-216-809-11	METAL CHIP	100	5%	1/10W
R3393	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R6001	1-216-833-11	METAL CHIP	10K	5%	1/10W




NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R6002	1-216-833-11	METAL CHIP	10K	5%	1/10W	D703	8-719-901-83	DIODE	1SS83		
R6003	1-216-833-11	METAL CHIP	10K	5%	1/10W	D704	8-719-074-25	DIODE	PG104R		
R6004	1-216-821-11	METAL CHIP	1K	5%	1/10W	D705	8-719-108-12	DIODE	RD9.1EW		
CRYSTAL						IC					
X001	1-795-006-21	VIBRATOR, CRYSTAL				IC701	8-759-803-42	IC	LA6500-FA		
X002	1-795-572-11	VIBRATOR, CRYSTAL				IC702	8-759-562-43	IC	TDA6108JF/N1B		
X301	1-781-377-31	VIBRATOR, CRYSTAL				IC703	8-759-701-59	IC	NJM78M09FA		
A-1139-006-A C (VAR) BOARD, MOUNTED						JACK					
4-382-854-11	SCREW (M3X10), P, SW (+)					 J701	1-451-470-21	SOCKET, CRT			
CAPACITOR						COIL					
C701	1-126-947-11	ELECT	47µF	20%	35V	L701	1-410-482-31	INDUCTOR	100µH		
C702	1-136-497-81	FILM	0.1µF	5%	50V	TRANSISTOR					
C703	1-126-947-11	ELECT	47µF	20%	35V	Q700	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
C704	1-107-652-11	ELECT	10µF	20%	250V	Q701	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
C705	1-107-652-11	ELECT	10µF	20%	250V	Q703	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
C706	1-137-528-11	MYLAR	0.1µF	10%	250V	RESISTOR					
C708	1-126-235-11	ELECT	100µF	20%	16V	R700	1-249-433-11	CARBON	22K	5%	1/4W
C709	1-126-964-11	ELECT	10µF	20%	50V	R701	1-216-833-11	METAL CHIP	10K	5%	1/10W
C710	1-126-964-11	ELECT	10µF	20%	50V	R702	1-216-811-11	METAL CHIP	150	5%	1/10W
C711	1-102-074-00	CERAMIC	0.001µF	10%	50V	R703	1-216-809-11	METAL CHIP	100	5%	1/10W
C713	1-126-964-11	ELECT	10µF	20%	50V	R704	1-249-419-11	CARBON	1.5K	5%	1/4W
C714	1-126-947-11	ELECT	47µF	20%	35V	R705	1-249-429-11	CARBON	10K	5%	1/4W
C715	1-162-114-00	CERAMIC	0.0047µF		2KV	R706	1-249-381-11	CARBON	1	5%	1/4W
C716	1-162-114-00	CERAMIC	0.0047µF		2KV	R707	1-249-383-11	CARBON	1.5	5%	1/4W
C719	1-126-947-11	ELECT	47µF	20%	35V	R708	1-247-807-31	CARBON	100	5%	1/4W
CONNECTOR						R709	1-247-807-31	CARBON	100	5%	1/4W
* CN701	1-564-506-11	PLUG, CONNECTOR	3P			R710	1-247-807-31	CARBON	100	5%	1/4W
CN702	1-695-915-11	TAB (CONTACT)				R711	1-260-328-11	CARBON	1K	5%	1/2W
CN703	1-695-915-11	TAB (CONTACT)				R712	1-260-328-11	CARBON	1K	5%	1/2W
CN704	1-785-879-11	CONNECTOR, ONE TOUCH				R713	1-260-328-11	CARBON	1K	5%	1/2W
* CN706	1-564-510-11	PLUG, CONNECTOR	7P			R714	1-260-087-11	CARBON	100	5%	1/2W
DIODE						R715	1-260-132-11	CARBON	560K	5%	1/2W
D701	8-719-901-83	DIODE	1SS83			R716	1-260-087-11	CARBON	100	5%	1/2W
D702	8-719-901-83	DIODE	1SS83			R718	1-216-373-11	METAL OXIDE	2.2	5%	2W
						R719	1-215-888-00	METAL OXIDE	220	5%	2W
						R720	1-216-825-11	METAL CHIP	2.2K	5%	1/10W




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REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R721	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	C909	1-104-999-11	MYLAR	0.1µF	5%	200V
R722	1-247-807-31	CARBON	100	5%	1/4W	C910	1-104-999-11	MYLAR	0.1µF	5%	200V
R723	1-247-807-31	CARBON	100	5%	1/4W	C911	1-126-933-11	ELECT	100µF	20%	16V
R724	1-247-807-31	CARBON	100	5%	1/4W	C912	1-126-933-11	ELECT	100µF	20%	16V
R725	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	C913	1-102-074-00	CERAMIC	0.001µF	10%	50V
R726	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	C914	1-130-491-00	MYLAR	0.047µF	5%	50V
R727	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	C930	1-104-655-91	ELECT	470µF	20%	6.3V
R731	1-216-864-11	SHORT CHIP				C931	1-104-655-91	ELECT	470µF	20%	6.3V
R732	1-216-833-11	METAL CHIP	10K	5%	1/10W	C1815	1-129-718-00	FILM	0.022µF	5%	630V
R733	1-216-833-11	METAL CHIP	10K	5%	1/10W	C1816	1-102-244-00	CERAMIC	220pF	10%	500V
R734	1-216-809-11	METAL CHIP	100	5%	1/10W	C1817	1-129-928-00	FILM	0.0027µF	10%	630V
VARIABLE RESISTOR						C1818	1-164-645-11	CERAMIC	1000pF	10%	500V
	RV701	1-241-656-11	RES, ADJ, METAL FILM 110M			C1819	1-102-244-00	CERAMIC	220pF	10%	500V
	RV702	1-238-019-11	RES, ADJ, CARBON 47K			C1820	1-109-954-11	ELECT	0.47µF	20%	160V
A-1098-864-A V (VAR) BOARD, MOUNTED						C2801	1-128-578-11	ELECT	1µF	20%	100V
	4-382-854-11	SCREW (M3X10), P, SW (+)				CONNECTOR					
CAPACITOR						* CN901	1-564-512-11	PLUG, CONNECTOR			9P
C802	1-126-964-11	ELECT	10µF	20%	50V	* CN902	1-770-723-11	CONNECTOR, BOARD TO BOARD			8P
C803	1-137-378-11	MYLAR	0.22µF	5%	50V	CN1802	1-785-879-11	CONNECTOR, ONE TOUCH			
C804	1-137-378-11	MYLAR	0.22µF	5%	50V	DIODE					
C805	1-131-985-21	FILM	0.033µF	5%	250V	D804	8-719-074-25	DIODE			PG104R
C808	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	D805	8-719-991-33	DIODE			1SS133T-77
C809	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V	D806	8-719-991-33	DIODE			1SS133T-77
C810	1-130-495-00	MYLAR	0.1µF	5%	50V	D807	8-719-210-21	DIODE			11EQS04
C811	1-129-725-00	FILM	0.082µF	5%	400V	D808	8-719-991-33	DIODE			1SS133T-77
C812	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	D813	8-719-991-33	DIODE			1SS133T-77
C813	1-126-933-11	ELECT	100µF	20%	16V	D901	8-719-924-11	DIODE			MTZJ-T-77-22
C821	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	D902	8-719-924-11	DIODE			MTZJ-T-77-22
C823	1-130-967-00	FILM	0.0027µF	5%	50V	D903	8-719-991-33	DIODE			1SS133T-77
C824	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V	D905	8-719-404-50	DIODE			MA111-TX
C826	1-162-927-11	CERAMIC CHIP	100pF	5%	50V	D906	8-719-404-50	DIODE			MA111-TX
C862	1-126-964-11	ELECT	10µF	20%	50V	D907	8-719-404-50	DIODE			MA111-TX
C901	1-107-667-11	ELECT	2.2µF	20%	400V	D908	8-719-404-50	DIODE			MA111-TX
C902	1-107-364-11	MYLAR	0.01µF	10%	200V	D1809	8-719-110-41	DIODE			RD15ESB2
C903	1-126-935-11	ELECT	470µF	20%	16V	D1810	8-719-970-87	DIODE			ERA38-06
C904	1-130-471-00	MYLAR	0.001µF	5%	50V	D1811	8-719-970-87	DIODE			ERA38-06
C905	1-107-364-11	MYLAR	0.01µF	10%	200V	D1812	8-719-081-93	DIODE			1N4937/23
C906	1-130-471-00	MYLAR	0.001µF	5%	50V	D2801	8-719-109-89	DIODE			RD5.6ESB2
C907	1-107-963-11	ELECT	33µF	20%	250V	D2802	8-719-991-33	DIODE			1SS133T-77
C908	1-126-935-11	ELECT	470µF	20%	16V						



REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
<u>IC</u>				R818	1-216-809-11	METAL CHIP	100 5% 1/10W
IC801	6-701-598-01	IC	UPC5023CS-184	R819	1-216-841-11	METAL CHIP	47K 5% 1/10W
<u>CHIP CONDUCTOR</u>				R820	1-218-869-11	METAL CHIP	8.2K 0.50% 1/10W
JR802	1-216-864-11	SHORT CHIP		R821	1-216-832-11	METAL CHIP	8.2K 5% 1/10W
JR803	1-216-864-11	SHORT CHIP		R822	1-216-841-11	METAL CHIP	47K 5% 1/10W
<u>COIL</u>				R824	1-218-895-11	METAL CHIP	100K 0.50% 1/10W
L801	1-406-989-21	INDUCTOR	10MH	R825	1-216-845-11	METAL CHIP	100K 5% 1/10W
L802	1-419-633-11	INDUCTOR	10MH	R826	1-249-421-11	CARBON	2.2K 5% 1/4W
L803	1-412-529-11	INDUCTOR	22µH	R827	1-218-863-11	METAL CHIP	4.7K 0.50% 1/10W
L901	1-410-473-11	INDUCTOR	18µH	R828	1-218-883-11	METAL CHIP	33K 0.50% 1/10W
L1805	1-406-677-11	INDUCTOR	10MH	R829	1-216-853-11	METAL CHIP	470K 5% 1/10W
<u>TRANSISTOR</u>				R833	1-218-867-11	METAL CHIP	6.8K 0.50% 1/10W
Q805	6-550-106-01	TRANSISTOR	KTB764	R834	1-218-855-11	METAL CHIP	2.2K 0.50% 1/10W
Q807	8-729-931-45	TRANSISTOR	IRF614	R837	1-218-875-11	METAL CHIP	15K 0.50% 1/10W
Q808	6-550-106-01	TRANSISTOR	KTB764	R840	1-218-855-11	METAL CHIP	2.2K 0.50% 1/10W
Q812	8-729-026-39	TRANSISTOR	2SA933AS-QT	R841	1-218-865-11	METAL CHIP	5.6K 0.50% 1/10W
Q901	6-551-125-01	TRANSISTOR	2SC59930J1S0	R842	1-218-855-11	METAL CHIP	2.2K 0.50% 1/10W
Q902	6-551-126-01	TRANSISTOR	2SA21400J1S0	R855	1-218-871-11	METAL CHIP	10K 0.50% 1/10W
Q903	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R856	1-218-857-11	METAL CHIP	2.7K 0.50% 1/10W
Q904	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R857	1-218-869-11	METAL CHIP	8.2K 0.50% 1/10W
Q905	8-729-600-22	TRANSISTOR	2SA1235-F	R860	1-218-871-11	METAL CHIP	10K 0.50% 1/10W
Q906	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R864	1-218-823-11	METAL CHIP	100 0.50% 1/10W
Q907	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R866	1-249-438-11	CARBON	56K 5% 1/4W
Q908	8-729-600-22	TRANSISTOR	2SA1235-F	R870	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
Q1810	8-729-043-95	TRANSISTOR	2SC3840(3)	R876	1-216-821-11	METAL CHIP	1K 5% 1/10W
Q2801	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R890	1-218-875-11	METAL CHIP	15K 0.50% 1/10W
Q2802	8-729-600-22	TRANSISTOR	2SA1235-F	R893	1-216-839-11	METAL CHIP	33K 5% 1/10W
Q2803	8-729-600-22	TRANSISTOR	2SA1235-F	R901	1-249-405-11	CARBON	100 5% 1/4W
Q2804	8-729-600-22	TRANSISTOR	2SA1235-F	R902	1-249-385-11	CARBON	2.2 5% 1/4W
<u>RESISTOR</u>				R903	1-249-414-11	CARBON	560 5% 1/4W
R809	1-216-832-11	METAL CHIP	8.2K 5% 1/10W	R904	1-249-432-11	CARBON	18K 5% 1/4W
R811	1-249-393-11	CARBON	10 5% 1/4W	R905	1-249-421-11	CARBON	2.2K 5% 1/4W
R814	1-215-862-11	METAL OXIDE	68 5% 1W	R906	1-249-432-11	CARBON	18K 5% 1/4W
R815	1-215-862-11	METAL OXIDE	68 5% 1W	R907	1-249-385-11	CARBON	2.2 5% 1/4W
R817	1-218-873-11	METAL CHIP	12K 0.50% 1/10W	R908	1-249-414-11	CARBON	560 5% 1/4W
				R909	1-260-316-51	CARBON	100 5% 1/2W
				R910	1-215-915-11	METAL OXIDE	470 5% 3W
				R911	1-215-405-00	METAL	220 1% 1/4W
				R912	1-249-407-11	CARBON	150 5% 1/4W
				R913	1-215-391-00	METAL	56 1% 1/4W
				R914	1-249-416-11	CARBON	820 5% 1/4W
				R915	1-249-425-11	CARBON	4.7K 5% 1/4W
				R917	1-249-425-11	CARBON	4.7K 5% 1/4W
				R918	1-249-401-11	CARBON	47 5% 1/4W



NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R919	1-249-401-11	CARBON	47	5%	1/4W	CONNECTOR					
R921	1-249-429-11	CARBON	10K	5%	1/4W	* CN1650	1-564-507-11	PLUG, CONNECTOR	4P		
R922	1-249-397-11	CARBON	22	5%	1/4W	* CN1670	1-564-507-11	PLUG, CONNECTOR	4P		
R923	1-249-401-11	CARBON	47	5%	1/4W	IC					
R930	1-216-864-11	SHORT CHIP				IC1690	6-705-958-01	IC	PQ15RW21J00H		
R931	1-249-421-11	CARBON	2.2K	5%	1/4W	RESISTOR					
R932	1-218-851-11	METAL CHIP	1.5K	0.50%	1/10W	R1691	1-215-433-00	METAL	3.3K	1%	1/4W
R933	1-216-864-11	SHORT CHIP				R1692	1-215-433-00	METAL	3.3K	1%	1/4W
R935	1-249-405-11	CARBON	100	5%	1/4W	R1694	1-215-429-00	METAL	2.2K	1%	1/4W
R938	1-216-864-11	SHORT CHIP				HS					
R1845	1-249-441-11	CARBON	100K	5%	1/4W	A-1104-994-A HS (VAR) BOARD, MOUNTED					
R1846	1-249-441-11	CARBON	100K	5%	1/4W	CAPACITOR					
R1847	1-249-441-11	CARBON	100K	5%	1/4W	C1001	1-104-665-11	ELECT	100µF	20%	25V
R1848	1-215-894-11	METAL OXIDE	2.2K	5%	2W	C1201	1-130-471-00	MYLAR	0.001µF	5%	50V
R1849	1-215-925-11	METAL OXIDE	22K	5%	3W	C1234	1-126-960-11	ELECT	1µF	20%	50V
R1850	1-243-610-71	METAL OXIDE	2.2K	5%	3W	C1235	1-126-960-11	ELECT	1µF	20%	50V
R1851	1-215-922-11	METAL OXIDE	6.8K	5%	3W	DIODE					
R1852	1-215-922-11	METAL OXIDE	6.8K	5%	3W	D1001	8-719-929-15	DIODE	HZS9.1NB2		
R2800	1-216-837-11	METAL CHIP	22K	5%	1/10W	D1002	6-501-276-01	DIODE	LNK0210022G4		
R2801	1-216-841-11	METAL CHIP	47K	5%	1/10W	D1003	8-719-929-15	DIODE	HZS9.1NB2		
R2802	1-216-833-11	METAL CHIP	10K	5%	1/10W	D1004	8-719-929-15	DIODE	HZS9.1NB2		
R2803	1-216-837-11	METAL CHIP	22K	5%	1/10W	D1005	8-719-929-15	DIODE	HZS9.1NB2		
R2804	1-216-833-11	METAL CHIP	10K	5%	1/10W	D1233	8-719-108-12	DIODE	RD9.1EW		
R2805	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	D1235	8-719-108-12	DIODE	RD9.1EW		
R2807	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	D1236	8-719-108-12	DIODE	RD9.1EW		
R2808	1-216-833-11	METAL CHIP	10K	5%	1/10W	IC					
TRANSFORMER						IC1001	8-742-212-20	HYB IC	SBX3081-71		
 T504	1-424-584-31	TRANSFORMER, FERRITE (DFT)				JACK					
GS						J1231	1-794-048-11	JACK, PIN 3P			
* A-1098-866-A	GS BOARD, MOUNTED										
4-382-854-11	SCREW (M3X10), P, SW (+)										
CAPACITOR											
C1630	1-126-967-11	ELECT	47µF	20%	50V						
C1690	1-126-943-11	ELECT	2200µF	20%	25V						
C1691	1-126-943-11	ELECT	2200µF	20%	25V						

In an effort to reduce the size of this pdf file the tiled schematics are not attached to this Service Manual. To receive a complete set of the tiled schematics for this manual please submit a request to:

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